

depends on the size of the cushion of lower-rated tranches that will absorb losses first, among other factors). Suppose that an issuer approaches the rating agency to rate the deal. If the rating agency were to find that the expected loss of the tranche the issuer envisions having an Aaa-rating is 1%, which is greater than 0.006%, it would refuse to rate that tranche Aaa.

26. Since well before the Class Period, Moody's and other major credit ratings agencies ("CRAs") have been transparent about the methodologies they employ to rate various structured finance products, such as collateralized debt obligations ("CDOs") and RMBS. They made their quantitative models available to market participants.<sup>22</sup> They issued frequent reports on the technical features of their approach. This allowed academics and regulators alike to study, compare, and comment on their methods.<sup>23</sup> Moody's also published data that made it possible to assess the performance of the structured finance securities it rated. Users of ratings could therefore dissect these models and make changes to them if they felt that such changes were appropriate. In addition, transparency of rating methodologies comes from "the steady turnover of rating agency analytic staff – who take jobs with investors, issuers, and investment banks – spreads hands-on knowledge of rating methodologies beyond the confines of the rating agencies."<sup>24</sup> Thus in my hypothetical example in the previous paragraph, a possibility is that before the issuer approaches the rating agency to rate the deal, the issuer itself anticipates and applies the rating agencies' likely models, assumptions, and requirements in order to present tranches that it expects will be rated at certain levels.

27. In a broad study of ratings in the structured finance marketplace, BIS noted: "[B]y making their rating models freely available to the market, the rating agencies have

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<sup>22</sup> For example, S&P's LEVELS, Moody's Mortgage Metrics, S&P's CDO Evaluator, and Moody's CDOROM are described on the rating agencies' websites and can be licensed from the rating agencies.

<sup>23</sup> See, for example: the description and comparison of then-current ratings methodologies in Ingo Fender and John Kiff (2004), "CDO Rating Methodology: Some Thoughts on Model Risk and its Implications," *Bank for International Settlements*, BIS Working Papers, No. 163.

<sup>24</sup> Mark Adelson, "The Role of the Credit Rating Agencies in the Structured Finance Market," Testimony before the U.S. House of Representatives' Committee on Financial Services, Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises, September 27, 2007. "Mr. Adelson joins S&P [as Chief Credit Officer in May 2008] from Adelson & Jacob Consulting, a firm that provides strategic consultation on securitization, real estate and investments. Prior to that, he was managing director and head of Structured Finance Research at Nomura Securities International. Previously, Mr. Adelson was managing director, Residential Mortgage Finance, for Moody's Investors Service." ([http://www2.standardandpoors.com/spf/pdf/media/leadership\\_actions\\_griep\\_\\_050808.pdf](http://www2.standardandpoors.com/spf/pdf/media/leadership_actions_griep__050808.pdf)).

## EXHIBIT 1

increased transparency and may have helped to strengthen the objectivity of the rating process. Inviting practitioner and academic comments on their methodologies also helps the agencies to keep their approaches up to the mark.”<sup>25</sup> Widespread discussions of rating methodologies and rating practices apparently also occurred at securitization industry conferences that were frequently attended by academics, asset managers, investment bankers, and other industry professionals.<sup>26</sup>

28. The approach to rating I have described above relies crucially on predictions about possible outcomes for losses and the probability attached to such outcomes. To make these predictions for subprime securities, the rating agencies openly used historical data on subprime losses as well as macroeconomic scenarios concerning housing and interest rates.<sup>27</sup> However, subprime mortgages, especially with the layering of multiple risk characteristics that came to dominate 2006 and 2007 vintage subprime loans, had not been available on a large scale for very long, and had not gone through a severe recession yet.<sup>28</sup> Consequently, the databases used by the agencies included a relatively small number of years, and during that limited timeframe the subprime market as well as the economy was constantly changing. When experience with a financial instrument is limited, forecasts using past experience are not as precise as they would be with more data. Therefore, rating agencies modify their methodologies and assumptions based on new data and experiences. Such methodology refinements imply nothing improper or

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<sup>25</sup> “The Role of Ratings in Structured Finance: Issues and Implications,” *Bank for International Settlements, Committee on the Global Financial System*, January 2005, p. 27.

<sup>26</sup> For example, the speaker list for Standard & Poor’s October 20, 2006 “Credit Risk Summit” on correlation modeling and CDOs consisted of academics, asset managers, and employees from major investment banks such as JP Morgan, Merrill Lynch, and Barclays Capital (<http://www2.standardandpoors.com/spf/pdf/events/CreditRisk2006.pdf>). Similarly, the American Securitization Forum’s 2006 Annual Meeting had a panel discussion of “Rating Agency Standards and Practices for Evaluation CDOs” and employees from JP Morgan Chase, Lehman Brothers, Bear Stearns, Morgan Stanley, Citi, and many buy-side organizations attended the conference (<http://www.americansecuritization.com/story.aspx?id=416>).

<sup>27</sup> See, for example: “Moody’s Mortgage Metrics: A Model Analysis of Residential Mortgage Pools,” *Moody’s Investors Service*, April 1, 2003. See also: “U.S. Subprime Mortgage Securitization Cashflow Analytics,” *Moody’s Investors Service*, March 17, 2004.

<sup>28</sup> See, for example: Laurie Goodman, Shumin Li, Douglas Lucas, Thomas Zimmerman, and Frank Fabozzi (2008), “Subprime Mortgage Credit Derivatives,” *John Wiley & Sons, Inc.*, pp. 295-308. Allan N. Krinsman (2007), “Subprime Mortgage Meltdown: How Did It Happen and How Will It End?” *The Journal of Structured Finance*, pp. 13-19. Also see: “Most of the data relates to basic, mainstream mortgage loans, rather than loans with multiple exotic features and risk factors. Data covering times of stress is scarce. So is data relating to loans with multiple risk factors, such as loans with both high loan-to-value ratios and no documentation of borrower income.” (Mark Adelson, “The Role of the Credit Rating Agencies in the Structured Finance Market,” Testimony before the U.S. House of Representatives’ Committee on Financial Services, Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises, September 27, 2007).

## EXHIBIT 1

fraudulent.<sup>29</sup> And as I will discuss below, all of these rating agency practices and data limitations were well-known.

29. For example, loan performance data indicate that changes in house price appreciation (HPA) is one of the most important factors explaining the defaults of subprime mortgages.<sup>30</sup> Consequently, ratings of subprime securitization tranches were dependent on HPA projections. *Ex post*, house price appreciation forecasts from experts in 2006 and 2007 turned out to be wrong; Moody's was not alone in being too optimistic about HPA.<sup>31</sup> However, anybody who plans an outing based on a weather forecast knows that the forecast could be wrong, and nobody would assume an incorrect forecast to be proof of a conflict of interest between the meteorologist and the tourism industry. Similarly, forecasting mistakes by Moody's do not mean that its ratings were biased because of conflicts of interest.

30. The concept of model risk is a well-known source of risk to which risk managers, regulators, and other market participants already paid great attention before the Class

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<sup>29</sup> Moody's had been updating their methodologies for rating RMBSs, CDOs, and other instruments well before (and throughout) the purported Class Period. For example, "An Update to Moody's Analysis of Payment Shock Risk in Sub-Prime Hybrid ARM Products," *Moody's Investors Service*, May 16, 2005. "Update to Subprime Residential Mortgage Securitization Assumptions," *Moody's Investors Service*, December 2, 2005. "Moody's Approach to Coding Subprime Residential Mortgage Documentation Programs: Updated Methodology," *Moody's Investors Service*, November 28, 2006. "Moody's Modeling Approach to Rating Structured Finance Cash Flow CDO Transactions," *Moody's Investors Service*, September 26, 2005.

<sup>30</sup> Yuliya Demyanyk and Otto Van Hemert (2009), "Understanding the Subprime Mortgage Crisis," *Review of Financial Studies*, forthcoming; Geetesh Bhardwaj and Rajdeep Sengupta (2009), "Did Prepayments Sustain the Subprime Market," Federal Reserve Bank of St. Louis Working Paper; Kristopher Gerardi, Andreas Lehnert, Shane Sherlund, and Paul Willen (2008), "Making Sense of the Subprime Crisis," *Brookings Papers on Economic Activity*, Fall, pp. 69-145.

<sup>31</sup> For example, experts from the Mortgage Bankers Association and the National Association of Realtors gave forecasts in 2006 that, after the fact, turned out to be too optimistic. ("Mortgage Finance Market Commentary #8: Housing Activity Should Decline Modestly This Year," Mortgage Bankers Association, January 2, 2006, available at [www.mortgagebankers.org](http://www.mortgagebankers.org); "Home Sales Settling Down and Appreciation Slowing," National Association of Realtors, June 6, 2006). See, also: "Economists Predict Soft Landing for Housing," National Association of Home Builders, April 28, 2006, available at [www.NAHB.org](http://www.NAHB.org); "Housing: Is the Worst Over?" *Business Week*, April 18, 2007; "A year ago at this time many top economists were looking for that recovery to begin in 2007. ... Many other economists freely admit their year-ago forecasts missed the mark." ("How They Got Housing Wrong," *CNN*, December 28, 2007, available at [www.CNNMoney.com](http://www.CNNMoney.com)). *The Wall Street Journal* periodically surveys analysts and economists on their outlook for key economic indicators, including HPA. In November 2006, 65% of respondents to the survey indicated they believed "the worst of the housing bust is behind us", and by March 2007 the number of economists who believed the worst of the housing bust was behind us had increased to 80%. (available at <http://online.wsj.com/public/resources/documents/info-flash08.html?project=EFORECAST07>). That, *ex post*, some experts were too optimistic about HPA in 2006 and 2007 is not surprising given the historical evidence at the time. As noted by current Fed chairman Ben Bernanke in 2005 (at that time he was an adviser to President Bush), "[w]e've never had a decline in housing prices on a nationwide basis." ("Drop Foreseen in Median Price of Homes in U.S.," *The New York Times*, August 26, 2007).

Moody's discussed the importance of HPA projections, and noted how they updated HPA assumptions in: "Sub-Prime Mortgages: An Integrated Look into Credit Issues Today and What to Expect," *Moody's Investors Service*, March 9, 2007.

## EXHIBIT 1

Period.<sup>32</sup> For instance, capital requirements for banks under the Basel II standards that are in effect in many countries, and to some extent for large banks in the U.S., explicitly require banks to set aside reserves for model risk.<sup>33</sup> Research published in 2004 discussed in detail how “model risk” could result in “meaningful differences” in CDO tranche rating outcomes from different agencies, and sounded caution “against exclusive reliance on CDO ratings in taking investment decisions.”<sup>34</sup> Similarly, an independent industry consultant warned in 2005 that “for structured financial products, investors are inadequately informed by the rating of any of the three major rating agencies and have to do their own independent evaluations.”<sup>35</sup>

31. In May 2005, former Fed Chairman Alan Greenspan noted that “the credit risk profile of CDO tranches poses challenges to even the most-sophisticated market participants” and warned investors “not to rely solely on rating-agency assessments of credit risk, in part because a CDO rating cannot possibly reflect all the dimensions of the risk of these complex products.”<sup>36</sup> In addition, in a report published in 2005, a working group of representatives from the central banks of developed countries reached the following conclusion about model risk in the ratings of structured finance products:

[M]odel-based risk assessments can be a long way from ‘true’ values and, to the extent that investors rely on ratings for their structured finance investments, the model risk linked to the

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<sup>32</sup> One definition of model risk is: “the risk that theoretical models used in pricing, trading, hedging, and estimating risk will turn out to produce misleading results”. (Steven Allen (2003), “Financial Risk Management, A Practitioner’s Guide to Managing Market and Credit Risk,” *John Wiley & Sons, Inc.*, p. 97). According to the Financial Services Authority, the regulator of the financial services industry in the UK, model risk refers to the risk of suffering “[l]osses due to imperfect model or data.” (Philippe Jorion and GARP (Global Association of Risk Professionals) (2007), “Financial Risk Manager Handbook,” 4<sup>th</sup> Edition, *John Wiley & Sons, Inc.*, p. 553). Model risk may include the risk of: using a model of reality that is ultimately incorrect, using a correct model inappropriately, approximating the solution of a model poorly, unstable data (e.g. past data trends not being indicative of future trends), and other potential problems arising from financial modeling. (See: “Model Risk,” *Goldman Sachs, Quantitative Strategies and Research Notes*, April 1996, pp. 6-8).

<sup>33</sup> See ¶ 699 of: “International Convergence of Capital Measurement and Capital Standards, A Revised Framework,” *Bank for International Settlements, Basel Committee on Banking Supervision*, June 2004.

<sup>34</sup> Ingo Fender and John Kiff (2004), “CDO Rating Methodology: Some Thoughts on Model Risk and its Implications,” BIS Working Papers, No. 163.

<sup>35</sup> Janet Tavakoli (2005), “Structured Finance: Rating the Rating Agencies,” *GARP Risk Review*, Issue 22, January/February.

<sup>36</sup> Remarks by Chairman Alan Greenspan, “Risk Transfer and Financial Stability,” To the Federal Reserve Bank of Chicago’s Forty-first Annual Conference on Bank Structure, May 5, 2005, available at: <http://www.federalreserve.gov/Boarddocs/Speeches/2005/20050505/default.htm>.

## EXHIBIT 1

agencies' rating methodologies will be among the principal risks these investors are exposed to.<sup>37</sup>

32. The fact that there was not unanimous agreement on the assumptions, models, and projections used by rating agencies was well-known before the subprime crisis. For example, a study published by the Brookings Institution reports an instance in 2005 when analysts from a major bank disagreed with S&P's loss projections on certain RMBS products: "For 2005 subprime loans, S&P predicts lifetime cumulative losses of 5.8%, which is less than half our number... We believe that the S&P numbers greatly understate the risk of HPA declines."<sup>38</sup> In a presentation at the Structured Credit Instruments Conference in November 2005, an analyst stated when discussing CDO modeling, "[m]y personal opinion is that correlation based on geographical location is not very accurate.... [D]espite my own misgivings as well as those of many other market participants, the rating agencies...continue to believe in the validity of geography-driven correlations."<sup>39</sup>
33. Ratings' heavy reliance on historical data and quantitative models is particularly important when considering allegations about Moody's loan originator evaluations. Plaintiffs allege without much specificity that Moody's misrepresented how it "evaluated the quality of originator practices," but it is unclear in what way Plaintiffs find Moody's statements about its methodology misleading.<sup>40</sup>
34. At all times, it was known that Moody's largely relied on hard, or verifiable, data and records (e.g., FICO scores, loan-to-value ratios, historical performance data) when

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<sup>37</sup> "The Role of Ratings in Structured Finance: Issues and Implications," *Bank for International Settlements, Committee on the Global Financial System*, January 2005, p. 24.

<sup>38</sup> Kristopher Gerardi, Andreas Lehnert, Shane Sherlund, and Paul Willen (2008), "Making Sense of the Subprime Crisis," *Brookings Papers on Economic Activity*, Fall, p. 138. Also see: "Market participants have been able to 'disagree' with rating models by using alternative assumptions or by ascribing less confidence to the models' estimates for stressful conditions. Many have done so and have tailored their investment strategies accordingly." (Mark Adelson, "The Role of the Credit Rating Agencies in the Structured Finance Market," Testimony before the U.S. House of Representatives' Committee on Financial Services, Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises, September 27, 2007.)

<sup>39</sup> Arturo Cifuentes (2006), "CDOs and Correlation: A Few Modeling Misconceptions," *CFA Institute Conference Proceedings Quarterly*, June, pp.54.

<sup>40</sup> Plaintiffs suggest that Moody's failed to adhere to its own stated methodology for evaluating loan originator quality in a 2003 research report titled "Moody's Mortgage Metrics: A Model Analysis of Residential Mortgage Pools," *Moody's Investors Service*, April 1, 2003. Plaintiffs chiefly point to a July 12, 2007 ratings action in which Moody's downgraded multiple 2006 vintage RMBS and CDO deals, 63% of which were attributed to four originators. Moody's then also modified its rating methodology and noted the loan originators that had exhibited poor performance. See: Memorandum for Class Certification, p. 6; Complaint ¶111-126.

## EXHIBIT 1

assigning ratings.<sup>41</sup> The increasing riskiness of certain originators' 2006 vintage loans lies largely in changes in the risk attributes of borrowers that generally could not be assessed using verifiable hard information that was available to rating agencies on mortgagors, loans, or originators.<sup>42</sup>

35. Moody's made it clear that it was not responsible for conducting the type of due diligence needed to immediately discern such changes in loan risk attributes. As stated in the Code of Conduct: "Moody's has no obligation to perform, and does not perform, due diligence with respect to the accuracy of information it receives or obtains in connection with the rating process."<sup>43</sup>

36. Moreover, greater insight into loan originator quality required an analysis of loan performance data after a sufficient period of seasoning, because "it was not clear if [early delinquency patterns of the 2006 vintage] just reflected the impact of lower home price appreciation on investors using subprime loans to flip properties, or foreshadowed more serious problems."<sup>44</sup> Moody's stated publicly in early 2007 that it was aware of the decline in recent vintage performance, as well as originator-specific problems, but wanted to observe additional data as the loans continued to evolve so it could assess the sources and severity of the problem and avoid making "drastic changes in ratings when

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<sup>41</sup> See, for example: the description of Moody's Mortgage Metrics, a predominantly quantitative model used for analyzing RMBS: "Loan-to-Value Ratio Remains Key: Borrower equity is an important buffer against default risk and a cushion against loss where a default occurs. ...Borrower character and capacity to pay play a central role in our rating approach. ... While there are many ways to assess a borrower's credit history, under-writers increasingly rely on automated approaches, usually a credit scoring system. ... The credit scoring system developed by Fair, Isaacs & Co. (FICO) produces statistically significant predictions of default frequency on Jumbo A loans. Reliance on reported information from previous creditors necessarily introduces a source of error; and a borrower's reported FICO scores can vary widely across the 3 major reporting agencies. Yet, although imperfect, Moody's Mortgage Metrics utilizes FICO scores at loan origination to maximize its predictive power for pool losses." ("Moody's Mortgage Metrics: A Model Analysis of Residential Mortgage Pools," *Moody's Investors Service*, April 1, 2003, pp. 6-7). For the use of Mortgage Metrics for subprime securities see: "Moody's Approach to Coding Subprime Residential Mortgage Documentation Programs: Updated Methodology," *Moody's Investors Service*, November 28, 2006, p.1.

<sup>42</sup> Laurie Goodman, Shumin Li, Douglas Lucas, Thomas Zimmerman, and Frank Fabozzi (2008), "Subprime Mortgage Credit Derivatives," *John Wiley & Sons, Inc.*, pp. 70-71, 303-308. As the securitization market evolved, lenders paid less attention to "soft" information about the borrowers or properties that were difficult to verify, and mortgages were increasingly underwritten for borrowers for whom the hard information offered a biased assessment of their capacity to pay. (Uday Rajan, Amit Seru, and Vikrant Vig (2008), "The Failure of Models That Predict Failure: Distance, Incentives and Defaults," University of Michigan Working Paper, pp. 3, 5).

<sup>43</sup> "Code of Professional Conduct," *Moody's Investors Service*, June 2005, p. 4.

<sup>44</sup> See: Adam Ashcraft and Til Schuermann (2008), "Understanding the Securitization of Subprime Mortgage Credit," Federal Reserve Bank of New York Staff Report, March, p. 59. See also: "Rating agencies also assess the underwriting standards by looking at historical default rates of an originator and monitor the default rates over time to determine if there has been deterioration or an improvement in underwriting standards." (Frank Fabozzi, Henry Davis, and Moorad Choudhry (2006), "Introduction to Structured Finance," *John Wiley & Sons, Inc.*, p. 80).

it's too early."<sup>45</sup> For example, Moody's flagged the poor performance of recent vintage loans in a January 22, 2007 review and noted that "Moody's loss expectations on pools securitized since 2004 through today have been increasing in response to the weakening of the housing market and collateral quality. ...There is ... significant dispersion in performance of deals issued in 2006 by the different originators."<sup>46</sup>

37. While Plaintiffs criticize Moody's for updating its methodology related to loan originator standards, it is important to note that other credit rating agencies and other market participants also had to adapt their methodologies to put more emphasis on loan originator identity and quality after the fallout of the crisis.<sup>47</sup>

## **II.B. Knowledge of potential conflicts of interest was widespread before (and throughout) the purported Class Period**

### **II.B.1. The potential "issuer-pays" conflict was widely discussed at all times**

38. The potential for conflicts of interest to arise from the issuer-pays model was already well-known before the proposed Class Period, and was extensively discussed after the Enron and other corporate scandals. For example, a Geneva Report on the World Economy published in 2004 noted "[a]n obvious risk is that the 'issuer fee' model

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<sup>45</sup> "Sub-Prime Mortgages: An Integrated Look into Credit Issues Today and What to Expect," *Moody's Investors Service*, March 9, 2007. Also, in a January 18, 2007 report, Moody's states "Mortgages backing securities issued in late 2005 and early 2006 have had sharply higher rates of foreclosure, real estate owned (REO) and loss than previously issued securities at similar, early points in their lives. These 'early default' measures have been primarily visible in the subprime universe, but are not limited to that sector. Moody's is currently assessing whether this represents an overall worsening of collateral credit quality or merely a shifting forward of eventual defaults which may not significantly impact a pool's overall expected loss.... As we have frequently commented on in recent years, originators of subprime loans have loosened underwriting guidelines and materially increased the layering of risk.... Issuers are examining whether various degrees of underwriting or broker misrepresentation might be causing increases in early defaults; however, there is currently limited data to confirm this as a widespread phenomenon.... Finally, preliminary data [...] may indicate that declines in home price appreciation nationwide also have played a role in these early defaults." ("Early Defaults Rise in Mortgage Securitizations," *Moody's Investors Service*, January 18, 2007, pp. 1, 5).

<sup>46</sup> "2006 Review and 2007 Outlook: Home Equity ABS; 2006 Was Tough – Will 2007 Be Even More Challenging?," *Moody's Investors Service*, January 22, 2007.

In a March 9, 2007 teleconference, Moody's notes that Fremont in particular has done very poorly. In the Q&A, Moody's notes that it has observed early payment default data "originator by originator, and the number is changing." ("Sub-Prime Mortgages: An Integrated Look into Credit Issues Today and What to Expect," *Moody's Investors Service*, March 9, 2007).

<sup>47</sup> For S&P's and Fitch's methodology revisions to assess loan originator qualities, see, for example: "Update On U.S. RMBS: Performance, Expectations, Criteria," *Fitch Ratings*, February 2008, p. 36; "Standard & Poor's Enhanced Mortgage Originator And Underwriting Review Criteria for RMBS," *Standard & Poor's*, November 25, 2008, p. 2. See also: "I believe that market participants can be more effective in estimating the riskiness of loans by placing greater emphasis on how the loans were originated and who originated them. However, here too, it remains to be seen whether the market will embrace such an approach." (Mark Adelson, "Subprime Mortgages - A Realistic Outlook," *Asset Securitization Report*, August 20, 2007, p.3).

could result in rating agencies implicitly or explicitly offering more favourable ratings in exchange for business.”<sup>48</sup> An *Economist* article in 2005 stated “[t]he big agencies’ business model has a built-in conflict of interest. Ratings are paid for by the issuers of bonds and other forms of tradable debt, not by investors who use them. Can they be completely independent of the firms who pay the bills?”<sup>49</sup> A *Wall Street Journal* article similarly commented that “[l]awmakers have called on the SEC to regulate ratings firms more closely and to monitor conflicts of interest in a system where issuers pay the companies that perform their ratings. The industry has come under fire for failing to spot red flags that exploded in scandal.”<sup>50</sup>

39. Contrary to Plaintiffs’ allegations,<sup>51</sup> market participants were not misled by Moody’s Code of Conduct released in June 2005 (and other alleged misrepresentations made during the purported Class Period) to think that potential inherent conflicts of interest would be completely eliminated. Moody’s stated in its Code of Conduct that: “Moody’s and its Analysts will use care and professional judgment to maintain both the substance and appearance of independence and objectivity. ... [Moody’s will adopt procedures to] eliminate, or manage and disclose, as appropriate, actual or potential conflicts of interest that may influence the opinions and analyses Moody’s makes or the judgment and analyses of Moody’s Employees who have an influence on Credit Rating decision.”<sup>52</sup> Moody’s cautionary language about using “care” and “managing” potential conflicts was not taken as a suggestion that potential for conflicts from the issuer-pays model would be completely eliminated. This is evidenced by regulators’ statements, financial media articles, and market participants’ commentaries during the purported Class Period that continued to flag the issue.<sup>53</sup>

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<sup>48</sup> Andrew Crockett, Trevor Harris, Frederic Mishkin, and Eugene White (2003), “Conflicts of Interest in the Financial Service Industry: What Should We Do About Them?,” *Geneva Reports on the World Economy* 5, p. 48.

<sup>49</sup> “Three is no crowd - Credit-rating agencies,” *The Economist*, March 26, 2005.

<sup>50</sup> “Moving the Market: SEC Says Voluntary Policing By Ratings Firms Lacks Bite,” *The Wall Street Journal*, March 10, 2005.

<sup>51</sup> Complaint, ¶69; Memorandum for Class Certification, pp. 6-7.

<sup>52</sup> “Code of Professional Conduct,” *Moody’s Investors Service*, June 2005.

<sup>53</sup> In addition to coverage in the mainstream financial media, this issue was discussed by bloggers. See, for example: “The ratings of our competitors were biased by serious conflicts of interest. Ours were not. You see, A.M. Best, Moody’s, S&P, and Duff & Phelps were paid substantial sums BY the insurance companies to provide ratings FOR the insurance companies, a blatant and direct conflict of interest.” (Martin D. Weiss, “The Greatest Scam of All,” *Prudent Investor Newsletters*, October 19, 2004). “This conflicted business model means that the paying customers for these agencies are the corporations they analyze, not



40. For example, Senator Richard Shelby stated in February 2006 that “he is concerned about the industry’s basic business model...that some critics say poses an inherent conflict of interest.”<sup>54</sup> The conflicts of interest issue was then extensively discussed during the Senate hearing entitled “Assessing the Current Oversight and Operation of Credit Rating Agencies” on March 7, 2006.<sup>55</sup> Again, remarking in a September 2006 report accompanying legislation aimed at rating agency practices, Senator Shelby noted that “NRSROs have been criticized by a broad array of interested parties with respect to conflicts of interest...”<sup>56</sup> Similarly, Pennsylvania Congressman Michael Fitzpatrick remarked in July 2006 that “[t]he lack of competition in the credit rating industry has lowered the quality of ratings, inflated prices, stifled innovation and allowed abusive industry practices and conflicts of interest to go unchecked.”<sup>57</sup>

41. When discussing rating agencies’ regulatory and competitive environment, a *Euromoney* article commented in August 2006 that “[a]t the heart of this is the continuing conflict of interests in the rating agency world. Before the 1970s, rating agencies were paid by the investors; since then the issuer has paid.”<sup>58</sup> Similarly, *The New York Times* noted in December 2006, “Congress, European securities regulators, investor advocates and even some rival credit ratings agencies questioned the independence and integrity of the credit rating system, in part because since the early

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the investors who look to the ratings for help in assessing a company's creditworthiness. ...I am encouraging everyone to Email the SEC at: SEC Center for Complaints and Enforcement Tips and complain about the obvious conflict of interest between ratings companies and their clients.” (Mish’s Global Economic Trend Analysis, March 16, 2005). “[I]f Disney Corp wants to sell some bonds, it pays S&P and Moody’s to give them a rating. This creates an obvious conflict of interest. On the other hand, who else is going to pay the agencies?” (Accrued Interest, September 28, 2006). “In short, the problems with the ratings agencies are the same as the problems with auditors. He who pays the piper calls the tune. Except in crises, the ratings agencies are more beholden to the issuers than their subscribers,” and “[t]hey are paid by the issuers, and have a conflict of interest. They can argue that they are zealous to protect their reputations, but in the short run, they get paid by issuers to rate deals. Only in times of crisis do they adjust their standards to meet the needs of the bond buyers.” (Aleph blog, March 21, 2007).

<sup>54</sup> “US Senate’s Shelby urges credit rater changes,” *Reuters News*, February 1, 2006.

<sup>55</sup> “Assessing the Current Oversight and Operation of Credit Rating Agencies,” Hearing before the Committee of Banking, Housing, and Urban Affairs, March 7, 2006.

<sup>56</sup> Senate Report to Accompany S. 3850: Credit Rating Agency Reform Act of 2006, Report 109-326, September 6, 2006. Note, although Senator Shelby had expressed concern about rating agencies’ basic business model, ultimately the Credit Rating Agency Reform Act of 2006 did not abolish the issuer-pays system, but rather focused on increasing competition, transparency, and accountability (see, for example: “Legislation Congress Approves Credit Rating Agency Reform Act of 2006,” *Bond Buyer*, September 28, 2006).

<sup>57</sup> “Pressure mounting over US ratings agency ‘duopoly,’” *Financial Times*, July 11, 2006.

<sup>58</sup> “Ratings agencies face shake-up,” *Euromoney*, August 1, 2006.

1970s the services have been paid by the very companies whose creditworthiness they evaluate.”<sup>59</sup>

### **II.B.2. Potential conflicts of interest in structured finance ratings were widely discussed throughout the Class Period**

42. Plaintiffs claim that potential conflicts of interest are intensified with structured finance ratings because of specific features of the rating process and of the market for structured finance issues. For instance, Plaintiffs make much of the fact that there were discussions between Moody’s and issuers in the process of rating a deal and issuers could pre-structure the securities on the basis of their knowledge of the ratings methodology.<sup>60</sup> Such discussions would have been natural. As in the simple example discussed in II.A.2, an agency would not assign a Aaa rating if the expected loss of the tranche was 1% but would assign such a rating if the expected loss was 0.006% or lower. The issuer could seek to secure a higher rating by adjusting the deal structure and reducing the amount of Aaa notes sold in the deal, and thus discussions with rating agencies would be a natural part of that effort.

43. This issue of whether rating agencies are involved in structuring deals had been debated by market participants before the purported Class Period. The BIS report in 2005 comments that “the agencies’ involvement in the structuring of deals[] has sparked concern that potential conflicts of interest in structured finance markets may be especially pronounced. According to this view, the fact that the agencies may have expressed an ‘ex ante opinion’ regarding deal structure suggests that they are providing ‘structuring advice’.”<sup>61</sup> On the other hand, Karen Johnson from The Federal Reserve Board stated her opinion in 2004 that “[i]nvolving the raters in the structuring of a

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<sup>59</sup> “Objectivity of a Rating Questioned,” *The New York Times*, December 12, 2006.

<sup>60</sup> Complaint, ¶ 45, 325.

<sup>61</sup> The report also notes, however, “[i]n fact, there appear to be no fundamental differences in the rating processes for structured finance products and traditional bonds. ... In both [corporate bond and structured finance] cases, the agency can communicate to the issuer the rating that it plans to assign, with the main difference lying in the issuer’s flexibility to adjust credit characteristics in response.” (“The Role of Ratings in Structured Finance: Issues and Implications,” *Bank for International Settlements, Committee on the Global Financial System*, January 2005 p. 25).

## EXHIBIT 1

particular issue *ex ante* rather than *ex post* does not amount to rating their own ratings.”<sup>62</sup>

44. Plaintiffs also argue that conflicts of interest issues had a completely different dimension for structured finance because, with structured finance, Moody’s was dealing with a few repeat issuers, higher fees, and a unique fee structure that they argue lead to “rating shopping.”<sup>63</sup> Plaintiffs claim that because of these features, Moody’s issued biased ratings for structured securities to gain market share and revenue growth.
45. The distinct features of the structured finance market and rating practices, as well as any potential effect of these features on conflicts of interest, were discussed prior to and throughout the purported Class Period. An article from the *Financial Times* noted in February 2007 that “it is the issuers - often investment banks or structured finance firms - that approach and pay the rating agencies, not investors. Critics highlight this as a potential conflict of interest.”<sup>64</sup> It was in plain sight to market participants that there were relatively few structured finance issuers (i.e., investment banks or structured finance firms) compared to myriad issuers of corporate securities.
46. Regarding fee structures, an independent industry consultant remarked in 2005 that “[structured finance rating] fee information is easily leaked. ...Charges are typically seven basis points with a minimum floor charge for smaller transactions.” She also commented that “[rating agencies] face constant pressure to earn fees for rating deals... The pressure is applied by frequent issuers or placement agents, such as investment banks, and the heat gets turned up an extra notch when rating agencies are asked to quickly rate complicated deals....In addition to enjoying a cozy relationship with

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<sup>62</sup> Andrew Crockett, Trevor Harris, Frederic Mishkin, and Eugene White (2003), “Conflicts of Interest in the Financial Service Industry: What Should We Do about Them?,” *Geneva Reports on the World Economy* 5, p. 100.

<sup>63</sup> Memorandum for Class Certification, pp. 5-6. Complaint, ¶¶43-44.

<sup>64</sup> “Moody’s earnings rise 86% on back of complex new products,” *Financial Times*, February 8, 2007.

structured finance issuers, rating agencies have also made it clear that they do not hold themselves accountable for unearthing fraud.”<sup>65</sup>

47. Similarly, in an article presented in the Brooking-Nomura forum in September 2005 it was noted that: “[f]or corporate debt, the fees are in the range of three to four basis points of the size of the issue... For structured finance issues, fees range up to 10 basis points, and fees for complex transactions are substantially higher, up to \$2.4 million.” Also, “credit rating agencies continue to face conflicts of interest. ...Credit rating agencies increasingly focus on structured finance and new complex debt products, particularly credit derivatives, which now generate a substantial share of credit rating agency revenues and profits. With respect to these new instruments, the agencies have become more like ‘gateopeners’ than gatekeepers.”<sup>66</sup>

48. Concerns about “rating shopping” behaviors also were frequently discussed. Various academic articles discussed this phenomenon.<sup>67</sup> A researcher from Moody’s published an article in 2001 stating that “[t]he credit rating agency industry is subject to moral hazard. Every rating agency has a business incentive to assign high ratings to issuers, who are free to choose among the agencies....Pressure on issuers to ‘shop’ for the highest rating is increased by their use in regulation. Such practices could undermine the reliability of ratings over time.”<sup>68</sup> A Nomura research report noted in February 2006: “On December 19 [2005], securitization professionals received a strong reminder about the consequences of rating shopping.... Rating shopping rarely involves corporate, sovereign, and municipal bonds. However, it is common for securitization

<sup>65</sup> Janet Tavakoli (2005), “Structured Finance: Rating the Rating Agencies,” *GARP Risk Review*, Issue 22, January/February. In my report, I do not mean to suggest that the statements made in Ms. Tavakoli’s piece, or in similarly cited works, accurately describe the role of rating agencies or how they carried out their business. These materials are presented here instead in order to demonstrate how much information and how many criticisms were publicly discussed up to and throughout the Class Period.

<sup>66</sup> Frank Partnoy (2005), “How and Why Credit Rating Agencies Are Not Like Other Gatekeepers,” Working Paper, available at [http://www.nomurafoundation.or.jp/data/20050928\\_Frank\\_Partnoy.pdf](http://www.nomurafoundation.or.jp/data/20050928_Frank_Partnoy.pdf).

<sup>67</sup> “Credit agencies have expressed concerns that the use of credit ratings in capital adequacy regulation may prompt firms to ‘shop’ for highest ratings in order to reduce their borrowing costs. Such ‘rating-shopping’ may pressure credit agencies to inflate their ratings, so that it may undermine their credibility.” (Misa Tanaka (2003), “The Macroeconomic Implications of the New Basel Accord,” *CESifo Economic Studies*, v49(2)). “[I]ssuing firms may engage in ‘rate shopping’ in which an issuer releases a favorable rating but withholds an unfavorable one.” (Jeff Jewell and Miles B. Livingston (2000), “The Impact of a Third Credit Rating on the Pricing of Bonds,” *The Journal of Fixed Income*, December, p. 69).

<sup>68</sup> Richard Cantor (2001), “Moody’s Investors Service Response to the Consultative Paper Issued by the Basel Committee on Bank Supervision ‘A New Capital Adequacy Framework’,” *Journal of Banking & Finance*, v25, pp.171-185.

## EXHIBIT 1

issues.”<sup>69</sup> Moody’s itself commented in a March 2007 research report that when comparing ratings for jointly rated structured securities, “rating shopping often causes large differences in rating opinions to be unobserved by the market.”<sup>70</sup>

49. Finally, it was also in plain sight that structured finance had been a significant contributor to Moody’s revenue growth since Moody’s became a stand-alone, publicly-traded company in 2000. According to Moody’s 10-Ks, structured finance ratings accounted for 39.4% of Moody’s rating revenue in 2001, 47.2% in 2004, and 54.2% in 2006.<sup>71</sup>

50. In sum, the existence of potential conflicts of interest from the issuer-pays model was well-known before and throughout the purported Class Period. The characteristics of the structured finance market that allegedly made such conflicts more acute were also transparent to market participants.

### **II.C. Knowledge of the allegedly undisclosed or misrepresented information would have been widespread among putative class members**

51. From 2006 through 2008, upwards of 10% of Moody’s common stock was held by top structured finance issuers, managers, and book runners (see Exhibit 3). Upwards of 77% of Moody’s common stock was held by institutional investors (including but not limited to those involved in structured finance noted above) during the purported Class Period (see Exhibit 4). A large portion of Moody’s shareholders were thus sophisticated investors who likely would have known the limitations of credit ratings and the dynamics of the structured finance market discussed above. These institutional investors would have also known that the potential for conflicts of interest was an

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<sup>69</sup> “Rating Shopping – Now the Consequences,” *Nomura Fixed Income Research*, February 16, 2006. Also see: “It is indisputable that securitization issuers in the MBS, CMBS, and CDO areas engage in rating shopping. They do openly. However... there is no conclusive evidence that the major rating agencies have ever succumbed to the effects of rating shopping and engaged in competitive laxity. In fact, even though rating shopping became rampant in early 1990s, the major rating agencies achieved highly impressive track records during that time and in the years that followed.” (Mark Adelson, “The Role of the Credit Rating Agencies in the Structured Finance Market,” Testimony before the U.S. House of Representatives’ Committee on Financial Services, Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises, September 27, 2007, p. 10).

<sup>70</sup> “Comparing Ratings on Jointly-Rated U.S. Structured Finance Securities: 2007 Update,” *Moody’s Investors Service*, March 30, 2007.

<sup>71</sup> Moody’s Corporation 2001, 2004, and 2006 Form 10-Ks.

inherent feature of the issuer-pays business model, and likely would have been familiar with the debate in the financial community about this topic.

52. Given the nature of Plaintiffs' claims in this matter, if the market for Moody's stock was efficient during the purported Class Period, and if a fraud happened as Plaintiffs allege, then Moody's stock price would quickly reflect market participants' knowledge of the alleged fraud. This is because the gist of Plaintiffs' claims is that banks issuing structured finance products pressured ratings agencies to issue favorable opinions, and due to the concentrated number of repeat issuer clients, Moody's "chose to please their customers, at the expense of objectivity."<sup>72</sup>
53. As a simple matter of logic, if Plaintiffs' theory were right, then the issuing banks and their employees involved in securitizations necessarily would have had knowledge of the very wrongdoing Plaintiffs are alleging, as they would have been participants in the alleged scheme.<sup>73</sup> Mobility of the employees within the financial services industry, and between banks and ratings agencies in particular, would also tend to make these institutions and yet more employees quickly aware of any such scheme.<sup>74</sup> Indeed, Plaintiffs state (quoting Jerome Fons): "It was also relatively easy for the major banks to play the agencies off of one another because of the opacity of the structured transactions and the high potential fees earned by the winning agency. Originators of structured securities typically chose the agency with the lowest standards, engendering a race to the bottom in terms of rating quality."<sup>75</sup>
54. Not only large financial institutions, but also other investors would likely have learned about the alleged scheme. Research in finance has shown that there is significant

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<sup>72</sup> Memorandum for Class Certification, p. 6.

<sup>73</sup> The point that issuing banks *could* have possessed knowledge of any alleged compromise on ratings' integrity is supported by New York Attorney General Andrew Cuomo's recent inquiry into "information the investment banks provided to the rating agencies and whether the bankers knew the ratings were overly positive." ("Prosecutors Ask if 8 Banks Duped Rating Agencies," *The New York Times*, May 12, 2010).

<sup>74</sup> As Mark Adelson pointed out in testimony before Congress, countless former employees from the rating agencies went on to work at large banks and for buy-side investors. One would thus expect that knowledge of any systematic fraud at a ratings agency would have been spread to hundreds or thousands of individuals throughout the financial industry. (Mark Adelson, "The Role of the Credit Rating Agencies in the Structured Finance Market," Testimony before the U.S. House of Representatives' Committee on Financial Services, Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises, September 27, 2007.).

<sup>75</sup> Memorandum for Class Certification, p. 6.

diffusion of information within various social networks in the financial community. For example, studies have found that word-of-mouth effects influence investor behavior, as shown by mutual fund managers' trading decisions being sensitive to trades of other managers in the same city and by individual investors' propensity to pick stocks from the same industry as their neighbors.<sup>76</sup> Another study found that social networks based on educational background (e.g. Harvard Business School alumni) are important mechanisms for facilitating the flow of private information about asset prices.<sup>77</sup> This research suggests that if the issuing banks knew of the alleged fraud, other individuals and institutions probably did as well. I know of no economic methodology to identify who had such knowledge, and no methodology to identify a subset of the proposed class to which this knowledge *might* be imputed.

55. Knowledge of the alleged scheme by many active market participants coupled with lasting inflation is inconsistent with an efficient market. In an efficient market, information is rapidly incorporated into the stock price and investors trade so that any source of predictability in risk-adjusted returns that is known to investors is quickly incorporated in the stock price.<sup>78</sup> If investors have reason to believe that a stock price is inflated because of a misrepresentation, then those investors will tend to sell the stock, driving the price down ahead of the expected bad news. If issuing banks had reason to believe that Moody's stock price was inflated by misrepresentations about Moody's methodologies or independence, then in an efficient market the issuing banks (and other parties with knowledge of the scheme) would quickly act on their knowledge and seek to make arbitrage profits by selling Moody's stock, eliminating the alleged inflation in the process.<sup>79</sup> On the other hand, these investors would not have purchased (or held) Moody's common stock had they believed that Moody's improperly carried out

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<sup>76</sup> Harrison Hong, Jeffrey D. Kubik, and Jeremy C. Stein (2005), "Thy Neighbor's Portfolio: Word-of-Mouth Effects in the Holdings and Trades of Money Managers," *The Journal of Finance*, v 60(6), pp. 2801-2824; Zoran Ivkovic and Scott Weisbenner (2007), "Information Diffusion Effects in Individual Investors' Common Stock Purchases: Covet thy Neighbors' Investment Choices," *The Review of Financial Studies*, v20(4), pp. 1327-1357.

<sup>77</sup> Lauren Cohen, Andrea Frazzini, and Christopher Malloy (2008), "The Small World of Investing: Board Connections and Mutual Fund Returns," *Journal of Political Economy*, v116(5), pp. 951-979.

<sup>78</sup> Academic studies suggest that in an efficient market, stock prices should fully reflect new material information immediately after the release of the information. *Supra*, footnote 2.

<sup>79</sup> For a detailed discussion of the arbitrage mechanism, see: Nicholas Barberis and Richard Thaler (2003), "A Survey of Behavioral Finance," Chapter 18 in "Handbook of the Economics of Finance," George Constantinides, Milton Harris, and René Stulz, eds., *Elsevier Science B.V.*.

structured finance ratings, because these investors would have expected a drop in Moody's stock price when the supposed "truth" behind Moody's structured finance ratings was revealed. Therefore, either: 1) the market for Moody's stock was efficient and thus widespread knowledge of the alleged fraud among large market participants would quickly eliminate any artificial inflation due to the fraud (and thus there could be no basis to assert loss causation); 2) the market for Moody's stock was inefficient (and thus there could be no basis to presume reliance under the "fraud on the market" theory); or 3) there was no fraud.

### III. Materiality and Loss Causation

#### III.A. Plaintiffs fail to demonstrate that any alleged misrepresentation was material

56. Plaintiffs assert in their Memorandum for Class Certification that "[a]ll of Defendants' misrepresentations were material. Because independence is essential to an NRSRO's functionality as a financial gatekeeper... [and] the decision to evaluate originator standards in rating structured finance instruments had serious consequences on the accuracy of ratings issued by Moody's..."<sup>80</sup> However, Plaintiffs have provided no empirical basis to substantiate their assertion that any of the alleged misrepresentations were "material" to investors in Moody's common stock.

57. To assess materiality of any given piece of information to investors, financial economists normally rely on a technique known as an "event study" to measure the stock price impact of new information that enters the marketplace. Event studies have been widely used for almost 40 years, and I have employed this technique repeatedly in my peer-reviewed research.<sup>81</sup> To a financial economist, the notable lack of an event study in Plaintiffs' filings undermines the claim that alleged misstatements were

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<sup>80</sup> Memorandum for Class Certification, pp. 7-8.

<sup>81</sup> For a review of the role of event studies in litigation, see: Mark L. Mitchell and Jeffrey M. Netter (1994), "The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission," *The Business Lawyer*, v49, pp. 545-590. My resume lists my publications. The first event study listed on my resume is "The Eurobond Market and Corporate Financial Policy: A Test of the Clientele Hypothesis," with Yong Cheol Kim, *Journal of Financial Economics*, 1988, v22 (2), pp. 189-205.



material. I will explain below in more detail how event studies should be done in this setting and why Plaintiffs have failed to demonstrate that the alleged misrepresentations were material to investors.

58. Professor Craig MacKinlay sums up the essence of the event study approach: “[u]sing financial market data, an event study measures the impact of a specific event on the value of a firm.”<sup>82</sup> Typically, event studies use a regression model to isolate the firm-specific stock price return after controlling for market- and industry-wide factors. Once a relationship between the firm’s returns and these control factors is estimated, it is possible to predict a stock’s expected return on any given day based on market and industry factors, i.e. what the return would have been absent the firm-specific “event.”<sup>83</sup> The difference between a stock’s actual return and its expected return is called the stock’s “abnormal return.” Few, if any, abnormal returns will be exactly zero. However, financial economists view such non-zero abnormal returns as immeasurably different from zero unless they cross a certain threshold. Abnormal returns that cross the threshold – typically set so the researcher is 95% confident the return is not due to random chance – are deemed “statistically significant” while other abnormal returns are attributed to random noise.<sup>84</sup> A statistically significant abnormal return in an event study is typically taken to measure the impact the tested event had on the firm’s value.

59. Event studies commonly estimate the relationship between a firm’s stock returns and the market and industry returns over a period that precedes the event being analyzed. In this case, however, estimating the model prior to the purported Class Period poses some statistical problems. To evaluate whether an abnormal return is statistically significant, one must compare it with the standard deviation of all abnormal returns over the estimation period. Standard deviation is a volatility measure, and owing to the

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<sup>82</sup> A. Craig MacKinlay (1997), “Event Studies in Economics and Finance,” *Journal of Economic Literature*, v35(1), p. 13. This article also contains many examples of event studies and citations to other academic articles discussing the method.

<sup>83</sup> In the language of financial economists, the expected return is actually the “conditional expected return,” that is, the expected return conditional on the day’s observed market and industry returns.

<sup>84</sup> A 95% confidence level corresponds to t-statistics exceeding 1.96 in absolute value, which is a typical benchmark for evaluating statistical significance in event studies. See: Mark L. Mitchell and Jeffry M. Netter (1994), *The Business Lawyer*, 1994, v49, p. 564: “An often used convention is the five percent rule – values greater than or equal to 1.96 standard deviations from the mean value are considered significantly different from the typical value because there is only a five percent chance that a randomly selected value will be 1.96 or more standard deviations from the true mean.”

market turmoil during the credit crisis, volatilities for the whole market and especially financial stocks like Moody's were broadly greater in 2007 and 2008 compared with earlier years, as seen in Exhibit 5.<sup>85</sup> This gradual increase in volatility means any model estimated prior to the proposed Class Period would set an artificially low threshold for assessing the statistical significance of abnormal returns during the proposed Class Period. I therefore chose to estimate my model for Moody's stock return using data from the start of the proposed Class Period through the last potential disclosure date from the Plaintiffs' filings, October 22, 2008.<sup>86</sup> Since my objective is to evaluate the stock-price reactions to the alleged misstatements or disclosures mentioned in Plaintiffs' filings, I exclude the dates when these alleged misstatements or disclosures are made so that they do not affect the estimation of my model.<sup>87</sup>

60. Similarly, due to the pronounced increase in volatility after the financial crisis started, if the model was simply estimated over the entire period, the standard deviation of Moody's stock returns -- to be used as a benchmark to judge statistical significance -- would be too high early in the purported Class Period because its estimation incorporates post-crisis data points corresponding to a time of high volatility, and too low later because much of the data used would be from a pre-crisis period of lower volatility. Therefore, I've sub-divided my estimation period into three parts based on major events that unfolded during the credit crisis and would likely impact market volatility.
61. My first sub-period runs from February 3, 2006 through August 8, 2007, the day before BNP Paribas suspended redemptions from three of its funds due to subprime problems, deemed by many as a key development when the system-wide credit crisis started to

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<sup>85</sup> The VIX Index is a widely-followed measure of market volatility. It closed at 11.79 on February 3, 2005 (one year before the proposed Class Period) and 12.96 on February 3, 2006 (the first day of the proposed Class Period) but had grown over 60% to close at 20.80 on October 24, 2007, the last day of the proposed Class Period. The VIX spiked further, generally closing above 50 (and even as high as 80.06) during October 2008. See: <http://www.cboe.com/publish/ScheduledTask/MktData/datahouse/vixcurrent.csv>

<sup>86</sup> Another way to avoid the problem of gradual changes of parameters is to perform "rolling" estimation where a separate model is estimated for each day based on the previous 252 non-event data points. I also estimated rolling models, and my inferences regarding statistical significance of allegation days are robust to this alternative specification.

<sup>87</sup> The practice of estimating within an examination period and excluding event days is common in cases like this one where there is a compelling statistical reason. See, for example: A. Craig MacKinlay, (1997), "Event Studies in Economics and Finance," *Journal of Economic Literature*, v35(1), pp. 13-39, at p. 20.

unfold.<sup>88</sup> The second sub-period runs from August 9, 2007 through September 12, 2008, the Friday prior to Lehman Brothers filing for bankruptcy,<sup>89</sup> after which market volatility skyrocketed to an unprecedented level (see Exhibit 5). And the third estimation sub-period runs from September 15, 2008 to October 22, 2008.<sup>90</sup>

62. I determined that the best modeling specification estimates Moody's stock return as a function of three factors: a) the return on the NYSE/Nasdaq Composite index (a market proxy), b) the return on the S&P 500 Financials Index (an index of the financial industry, of which Moody's is a small component), and c) the return on an equal-weighted index of the return of the publicly-traded parents of Fitch and Standard & Poors, Fimalac and McGraw-Hill respectively (a proxy for the credit rating industry).<sup>91</sup> I used the relationship established by this regression model to estimate Moody's expected returns and calculate abnormal returns on all alleged misstatement and disclosure dates. As robustness checks, I have also used model specifications with (1) only the market index, (2) only the market index and the S&P 500 Financial index, or (3) the market index, the S&P 500 Financial Index, and the peer companies according to Moody's annual report. My inferences regarding statistical significance of stock returns on the event days discussed in this report and my conclusions regarding materiality and loss causation are robust to these alternative specifications.<sup>92</sup>

63. Event study results are essential in assessing both materiality and loss causation. If an alleged misstatement is material to investors, I would expect to observe a statistically

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<sup>88</sup> For example, see: John B. Taylor and John C. Williams (2009), "A Black Swan in the Money Market," *American Economic Journal: Macroeconomics*, 2009, v1(1), pp. 58-59; Markus K. Brunnermeier (2009), "Deciphering the Liquidity and Credit Crunch 2007 – 2008," *Journal of Economic Perspectives*, v23(1), pp. 77-100.

<sup>89</sup> "Wall Street Down, Lehman Out," *The Wall Street Journal*, September 15, 2008.

<sup>90</sup> Unsurprisingly, statistical tests show that the volatility of the second and the third sub-periods is significantly higher than the volatility of the preceding sub-period(s).

<sup>91</sup> I determine the best model specification by looking at, among other factors, the goodness of fit of each specification, as measured by the adjusted R-squared of the regression models. Note that Fimalac S.A. is a French company and its common stock trades on the Paris stock exchange in Euros. I use U.S. dollar stock returns for Fimalac in my analysis. These stock returns are obtained by converting the share price of Fimalac from Euros to U.S. dollars. I have also conducted the event study excluding Fimalac from the peer group as a sensitivity test and my inferences regarding the results do not change.

<sup>92</sup> The list of the peer firms includes Dow Jones & Company, Inc., The McGraw-Hill Companies, Pearson PLC, Reuters Group PLC, Thomson Corporation and Wolters Kluwer. See Moody's Corporation 2007 Form 10-K, p. 15.

significant positive abnormal return on that date.<sup>93</sup> As shown in Exhibit 6, I have examined all the days on which alleged misrepresentations occurred according to the Opinion and Order and Plaintiffs' Memorandum for Class Certification.<sup>94</sup> On these days, Moody's allegedly misrepresented its independence in various annual reports, SEC filings, and its Code of Professional Conduct report, and misrepresented its rating methodology regarding loan originator standards in research reports. However, during the entire purported Class Period, there is no day on which Plaintiffs allege Moody's made a misstatement that is associated with a statistically significant and positive abnormal return.<sup>95</sup> Therefore, contrary to what Plaintiffs have claimed, the market did not deem the information released on those days to be material.

### **III.B. Plaintiffs fail to present a basis to prove loss causation on a class-wide basis**

64. In order to demonstrate that investors suffered losses due to the alleged misrepresentations, I have been told that Plaintiffs must show (a) that the stock's price declined when the disclosures that corrected or revealed previous alleged misrepresentations became public and (b) that the decline was caused by the revelation of defendant's alleged fraud, rather than other non-allegation-related factors such as changed economic circumstances, changed industry conditions, changed investor expectations, or new firm-specific non-litigation-related events.

65. Plaintiffs have failed to put forward scientific evidence showing either that Moody's stock price declined when the alleged curative disclosures were made, or that Moody's

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<sup>93</sup> To the extent that there is more than one piece of news that enters the market in a given day, a daily event study cannot isolate the effect of each individual disclosure. In the course of my analysis, I have also considered how potentially confounding news could alter the conclusions from a daily event study.

<sup>94</sup> These days include April 1, 2003, June 2, 2005, March 1, 2006, March 23, 2006, March 1, 2007, March 22, 2007, April 2, 2007, and October 3, 2007. (In Re: Moody's Corporation Securities Litigation, Opinion and Order, filed February 23, 2009, pp.7-11, 23-29; Memorandum for Class Certification, pp. 6-7).

<sup>95</sup> As shown in Exhibit 6, Plaintiffs also allege that two misrepresentations occurred before the start of the purported Class Period. On April 1, 2003, Moody's allegedly misrepresented its rating methodology, and Moody's stock price increased by 1.73%. On the same day, the NYSE index increased 1.20%, and S&P 500 Financials index increased by 2.23%. On the next trading day, Moody's stock return was 0.55%, the NYSE index moved by 2.25%, and the S&P 500 Financials index moved by 2.83%. On June 2, 2005, Moody's published its Code of Professional Conduct and allegedly made misrepresentations regarding its independence. On June 2, 2005, Moody's stock return was -0.30%, the NYSE index moved by 0.16%, and the S&P 500 Financials index moved by -0.18%. On the next trading day, Moody's stock return was -0.32%, the NYSE index moved by -0.43%, and the S&P 500 Financials index moved by -0.69%.

stock price declines were caused by the revelation of alleged previous misrepresentations, rather than by other non-fraud-related factors, such as the unprecedented financial crisis that impacted the whole financial industry. The claims to that effect in the Complaint and in Plaintiffs' Memorandum for Class Certification do not amount to scientific evidence.

66. In this section, I will discuss in more detail why Plaintiffs have not demonstrated a way to link the decrease in Moody's stock price to revelation of the alleged fraud, rather than to the unprecedented financial crisis. I will first discuss the contributing factors to the crisis, and the absence of any basis provided by Plaintiffs to assert that the financial crisis itself was caused by Moody's deceiving the market. I will then discuss Plaintiffs' failure to show that Moody's stock price declined due to corrections of alleged misrepresentations on each alleged curative disclosure day. Finally, I will show that putative class members, including certain lead Plaintiffs, could have different incentives (and different ability) to claim loss causation based on different events.

### **III.B.1. The financial crisis during 2007 and 2008**

67. Many factors laid the foundation for the crisis. After the recession of 2001, the United States as well as the global economy experienced a period of steady growth.<sup>96</sup> The growth of global GDP was accompanied by an even faster growth in global financial assets. Increasing globalization also facilitated capital flows across countries, especially funds from emerging countries to industrial nations via investments in financial assets.<sup>97</sup> In the U.S., the Federal Reserve pursued a policy of cutting short-term interest rates through the end of 2003 in an effort to help the economy.<sup>98</sup> The combination of low interest rates and increased supply of funds resulted in rapid growth in credit.

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<sup>96</sup> "World Economic Outlook: Spillovers and Cycles in the Global Economy," *International Monetary Fund*, April 2007, p. 211.

<sup>97</sup> "Mapping Global Capital Markets: Fifth Annual Report," *McKinsey & Company*, October 2008, pp. 16-24.

<sup>98</sup> "Selected Interest Rates," Federal Reserve Statistical Release, <http://www.federalreserve.gov/releases/h15/data.htm>.

68. During the same time, a government desire to increase home ownership coupled with the easy availability of housing loans helped home ownership grow rapidly.<sup>99</sup> Section II.A.2 discusses that there was tremendous growth in subprime mortgage securitizations (as well as in other non-prime securitizations such as Alt-A securitizations). The growth in non-prime originations was viewed favorably at the time, as it coincided with a strong push by the federal government to increase housing “affordability” for lower-income families.<sup>100</sup>
69. There was much financial innovation to create mortgage products that would make it easier for families that did not qualify for prime mortgages to obtain mortgages they could afford. One example of such innovations was the introduction of option-ARMs. With an option-ARM mortgage, the mortgage holder had flexibility to make a lower mortgage payment. However, when she chooses to do so the principal amount of the mortgage is increased, reducing equity and increasing risk.<sup>101</sup>
70. It is important to note that the spectacular growth of house prices followed by a crash did not take place everywhere in the United States. Vast regions were relatively unaffected by house price increases. Further, a number of foreign countries experienced so-called housing bubbles.<sup>102</sup> These patterns in housing appreciation show that it is implausible to blame securitization or the credit rating agencies for housing appreciation. Securitization was available in regions of the U.S. where house prices increased little, and often its availability was extremely limited in some of the foreign countries with sharp increases in house prices. However, a common factor among

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<sup>99</sup> U.S. Census Bureau, US Department of Commerce, “Homeownership Rates for the US and Regions: 1965 to Present,” <http://www.census.gov/hhes/www/housing/hvs/historic/files/histtab14.xls>

<sup>100</sup> Laurie Goodman, Shumin Li, Douglas Lucas, Thomas Zimmerman, and Frank Fabozzi (2008), “Subprime Mortgage Credit Derivatives,” *John Wiley & Sons, Inc.*, pp. 299-301, 310; John Taylor (2009), “Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis,” *Hoover Institution Press*, 1<sup>st</sup> ed., p. 11.

<sup>101</sup> Laurie Goodman, Shumin Li, Douglas Lucas, Thomas Zimmerman, and Frank Fabozzi (2008), “Subprime Mortgage Credit Derivatives,” *John Wiley & Sons, Inc.*, pp. 16, 299-301, 310.

<sup>102</sup> R. Glenn Hubbard, and Christopher J. Mayer (2009) “The Mortgage Market Meltdown and House Prices,” *The B.E. Journal of Economic Analysis & Policy*: v9(3), Article 8, pp. 1-7.

countries that experienced high housing appreciation is monetary policies that led to low interest rates.<sup>103</sup>

71. As long as house prices were increasing, the risks associated with subprime mortgages were low. However, as shown in Exhibit 7, housing appreciation slowed down in later 2006, and then house prices started to fall. When house price appreciation slowed and turned negative, mortgages that were originated in 2006 and 2007 experienced an unprecedented default rate that surprised the market.<sup>104</sup> As discussed earlier in this report, the unexpectedly high early payment default rate of recent-vintage loans and originator-specific performance variation were flagged by Moody's as performance data came in.

72. Though market participants came to realize the looming problems with the recent vintage subprime mortgages in late 2006 and early 2007, until June 2007 it still seemed to many that the problem was contained, and it appeared highly unlikely that subprime losses could cause a credit seizure in the whole financial market. In the first half of 2007, many market participants and regulators shared the view that "the severe contraction in the subprime mortgage market will not be so great as to threaten the expansion."<sup>105</sup> Credit spreads, a market measure for the compensation premium investors demand to bear the risk of bonds with default risk, reached the lowest level in recent years in June 2007 (as shown in Exhibit 8, which tracks high yield bond spread). Even in July 2007, Federal Reserve officials, including Chairman Ben Bernanke, commented that the broader economic impact of the subprime problems was expected

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<sup>103</sup> John Taylor (2009), "The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong," NBER Working Paper 14631; John Taylor (2009), "Getting Off Track: How Government Actions and Interventions Caused, Prolonged, and Worsened the Financial Crisis," *Hoover Institution Press*, 1<sup>st</sup> Edition, pp. 7-10; Rudiger Ahrend, Boris Cournede, and Robert Price (2008), "Monetary Policy, Market Excesses and Financial turmoil," OECD Economics Working Paper No. 597.

<sup>104</sup> "The rapidity of the decline in the subprime mortgage market has likely taken most market participants and observers by surprise." ("A Simple Guide to Subprime Mortgages, CDO, and Securitization," *Citi*, April 13, 2007). See also: Laurie Goodman, Shumin Li, Douglas Lucas, Thomas Zimmerman, and Frank Fabozzi (2008), "Subprime Mortgage Credit Derivatives," *John Wiley & Sons, Inc.*, pp. 301-308.

<sup>105</sup> "JP Morgan Q&A: A Fundamental View of Subprime Fallout," *JP Morgan*, March 19, 2007. See: "Subprime mortgage market woes seen well contained," *Reuters News*, April 11, 2007; "Bernanke Believes Housing Mess Contained," *Forbes*, May 17, 2007. Also: "Morgan Stanley's Fixed Income team, while cautious on the outlook for credit, believes that the credit market broadly speaking is currently experiencing an orderly re-pricing of risk and an all-out liquidity crunch appears unlikely at this point." ("Moody's Sub-prime Issues Manageable; Buying Opportunity," *Morgan Stanley*, June 28, 2007).

## EXHIBIT 1

to be limited, and the credit problems from the subprime crisis “were not leading to systemic problems in financial markets.”<sup>106</sup>

73. However, the market for subprime-backed securities worsened sharply as some hedge funds specializing in subprime shut down and as evidence of worsening creditworthiness of the underlying mortgages increased. These developments led to concerns about mark-to-market losses and “fire sales,” which put further pressure on prices and led to growing illiquidity, so that by August 2007 credit spreads were sharply up for subprime securities, while one bank, BNP Paribas, concluded that it could not put a value on securities held by some funds.<sup>107</sup> As investors lost confidence, they tried to exit their investments in such instruments, but found few buyers.
74. The impending liquidity squeeze in the asset-backed commercial paper market and the disruption in interbank money markets in August 2007 (see Exhibits 9 and 10) signaled the advent of a systemic crisis and led to decreases in the value of Aaa mortgage-backed securities (Exhibit 11), decreases that had seemed extremely unlikely *ex ante*, and that had much less to do with changes in the creditworthiness than with the growing lack of liquidity and changes in risk premiums.<sup>108</sup> These effects are important during a credit crisis, but they are not incorporated into ratings, as I noted above in paragraph 24.
75. The stock market crash of 1987 destroyed more financial wealth than the subprime problems did in 2007. Why was it, then, that the crisis that started in 2007 was considered the worst financial crisis and the worst recession since the Great Depression of the 1930s? The consensus of economists on this issue is straightforward: the stock market crash of 1987 did not affect the capitalization of banks; in contrast, the collapse

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<sup>106</sup> “STOCKS NEWS US-Housing not derailing growth outlook-Fed’s Plosser,” *Reuters News*, July 11, 2007; “Fed’s Bernanke: Sees Economy Strengthening Into ‘08,” *Dow Jones Capital Markets Report*, July 18, 2007; “Fed’s Warsh says no systematic risk from subprime,” *Reuters News*, July 11, 2007.

<sup>107</sup> Markus K. Brunnermeier (2009), “Deciphering the Liquidity and Credit Crunch 2007-2008,” *Journal of Economic Perspectives*, v23(1), pp. 82-87.

<sup>108</sup> Indeed, in April 2008, the Bank of England published an analysis of the value of subprime asset-backed securities which showed that the main driver of lost value in tranches rated Aaa at issuance was not deterioration of creditworthiness, but rather other factors that economists typically would classify as liquidity and risk premium effects. (“Financial Stability Report,” *Bank of England*, April 2008, Issue 23, pp. 17-25).



of the credit boom affected the balance sheets of banks and their capitalization.<sup>109</sup> Banks had been moving from a traditional banking model to an “originate and distribute” model in which they fund their business by securitizing the loans they have generated.<sup>110</sup> During this crisis, the securities held by banks had lost value; as banks absorbed losses from their securities and their loans became impaired, their equity fell. Banks are subject to regulatory capital requirement, and with less equity, banks were forced to raise supplemental equity and to cut back on issuing new loans.<sup>111</sup>

76. Because of the losses incurred by banks and the severe contraction of the securitization market, financing became hard to obtain, which worsened the crisis as it led to a slowdown of economic activity and prevented borrowers from taking advantage of the decline in interest rates. The recession that followed in 2008 naturally decreased the creditworthiness of many borrowers, compounding the problems in the credit markets and further damaging banks’ balance sheets.

77. The bank capitalization problems turned a manageable housing recession into a housing crisis, which worsened the recession, worsened the default rates on mortgages, and in turn worsened bank balance sheets further. The vicious cycle eventually led to an unprecedented series of financial institution failures: the takeover of Bear Stearns on March 16, 2008, the run on IndyMac Bank in July 2008, Fannie Mae and Freddie Mac’s placement into conservatorship on September 7, 2008, the takeover of Merrill Lynch on September 14, 2008, the bankruptcy of Lehman Brothers on September 15, 2008, the bailout of AIG on September 16, 2008, and the failure of Washington Mutual on September 25, 2008.<sup>112</sup>

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<sup>109</sup> See: Markus K. Brunnermeier (2009), “Deciphering the Liquidity and Credit Crunch 2007-2008,” *Journal of Economic Perspectives*, v23(1), pp. 77–100.

<sup>110</sup> “Global Financial Stability Report: Containing Systematic Risks and Restoring Financial Soundness,” *International Monetary Fund*, April 2008, pp. 31-32, 74-77, 91.

<sup>111</sup> *Ibid.*, p. 34.

<sup>112</sup> See, for example: “JPMorgan Acts to Buy Ailing Bear Stearns at Huge Discount,” *The New York Times*, March 16, 2008; “Lax Lending Standards Led to IndyMac’s Downfall,” *The New York Times*, July 29, 2008; “Treasury to Outline Fan-Fred Plan,” *The Wall Street Journal*, September 7, 2008; “Wall Street Down, Lehman Out,” *The Wall Street Journal*, September 15, 2008; “Fed’s \$85 Billion Loan Rescues Insurer,” *The New York Times*, September 17, 2008; “Government Seizes WaMu and Sells Some Assets,” *The New York Times*, September 25, 2008.

78. In summary, the financial crisis of 2007-2008 flowed from many factors that were outside of Moody's control. Plaintiffs' accusation that the crisis was a result of Moody's alleged misstatements about independence or methodology (or even Moody's allegedly flawed ratings themselves) is highly implausible and unsubstantiated.

**III.B.2. Plaintiffs have not shown that the crisis was caused by Moody's structured finance rating activity**

79. Plaintiffs assert that the "[d]estruction of the [c]redibility of [s]tructured [f]inance [c]redit [r]atings [r]esulted in [d]emolishing [l]arge [p]arts of the [s]tructured [f]inance [m]arket and with it, [r]ating and [r]evenue [o]pportunities."<sup>113</sup> Plaintiffs have not demonstrated that the developments in the structured finance market during the financial crisis were caused by Moody's allegedly misstated rating practices, and Plaintiffs' assertion to that effect is contradicted by various findings discussed below.

80. As Section II demonstrated, the key risks and important facets of the structured finance marketplace and the rating methodological issues that broadly underpin the Plaintiffs' claims in this matter were known by market participants before -- and indeed throughout -- the proposed Class Period. Even if one does not believe that Moody's adequately managed potential conflicts, modeling methodologies employed in the ratings process were known, and potential weaknesses were openly debated by academics and practitioners alike, providing an additional safeguard against potential bias. Sophisticated investors knew that ratings were but one of many factors they should consider when evaluating a security, and if they were skeptical of an assigned rating they could use the published models and their own models to evaluate it.

81. The models of market participants and academics had important common elements. For example, the foundation for the pricing and risk models of credit derivatives was a technical tool based on the normal distribution (the Gaussian copula). This tool was

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<sup>113</sup> Complaint, ¶¶ 373-392.

## EXHIBIT 1

used by financial institutions and among institutional investors. It forms the theoretical basis for the structured finance rating models as they existed during the Class Period.<sup>114</sup>

82. Rating agencies were not somehow unique or distinct in the way they thought about the risks of structured finance. Traders and investors used similar approaches. One recent published study examines why bank analysts collectively failed to anticipate the subprime crisis: “[A]nalysts [of major banks] used fairly sophisticated tools to evaluate these mortgages but were hampered by the absence of episodes of falling prices in their data...[M]any analysts anticipated the possibility of a crises in a qualitative way...but never fleshed out the quantitative implications. Finally, analysts were remarkably optimistic about HPA.”<sup>115</sup>

83. In addition to analysts at banks, there are many highly sophisticated investors in the securities markets. These investors had access to mountains of data and were familiar with the credit rating methodologies.<sup>116</sup> They could make a killing by shorting securities that were overpriced due to any rating bias. Yet, the existing data on the prices of Aaa tranches of home equity loan securitizations for 2006, as depicted in Exhibit 11, shows that the market did not discount these tranches until July 2007. The fact that sophisticated traders did not push down the price of these tranches in 2006 implies that their models did not suggest a crisis was on the horizon, which casts doubt on Plaintiffs’ assertion that there was a systematic, purposeful bias in the ratings of these tranches.

84. Further, given that the characteristics of the structured finance market were transparent, if -- as Plaintiffs suggest -- Moody’s was over-rating structured finance issues due to

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<sup>114</sup> Jian Hu (2007), “Assessing the Credit Risk of CDOs Backed by Structured Finance Securities: Rating Analysts’ Challenges and Solutions,” Moody’s Investors Service Working Paper. However, this technical tool was subject to press scrutiny. See, for example, “Slices of Risk: How a Formula Ignited Market That Burned Some Big Investors,” *The Wall Street Journal*, September 12, 2005. “Recipe for Disaster: The Formula That Killed Wall Street,” *Wired Magazine*, February 23, 2009.

<sup>115</sup> Gerardi, Kristopher, Andreas Lehnert, Shane Sherlund, and Paul Willen (2008), “Making Sense of the Subprime Crisis,” *Brookings Papers on Economic Activity*, Fall, pp. 127-128, 141-142.

<sup>116</sup> See, for example: *ibid.*, p. 130; Manuel Adelino (2009), “Do Investors Rely Only on Ratings? The Case of Mortgage-Backed Securities,” MIT Working Paper, presents empirical evidence that RMBS pricing at issuance is based on more than just the assigned rating, which suggests sophisticated investors differentiated between equivalently-rated deals and were not blindly depending on the CRAs: “The results show that investors did not rely exclusively on ratings when pricing the deals at origination. In fact, yield spreads have predictive power for both the probability of downgrade and of default after taking into account all the information contained in the ratings.”

conflicts of interest, market participants should have been aware of such a potential bias all along. At the very least, issuers could recognize the bias. After all, issuers knew as much, if not more, about the underlying collateral as Moody's did. If the ratings were biased and the market mispriced the securities, then it would have made no sense for the issuers to hold them because their yield would have been too low to reflect the risk that issuers knew was present. However, it is well-known that the issuers were holding large amounts of home-equity loan securitizations, and ultimately suffered large losses, which undermines Plaintiffs' hypothesis.<sup>117</sup>

85. The Global Financial Stability Report published by the International Monetary Fund reports that as of March 2008, banks globally incurred \$193 billion of subprime related losses, and were expected to incur \$95 billion more. Securitized debt accounts for the bulk of the losses.<sup>118</sup> Such losses were not only incurred by banks, but shared by hedge funds, financial guaranty insurers and other financial companies alike.<sup>119</sup> Notably, as shown in Exhibit 12, major structured finance issuers, managers, and book runners also suffered large, widely-publicized losses on subprime and Alt-A RMBS, CDOs, and related structured products held on their own balance sheets in 2007 and 2008.

86. The BIS sums up what is discussed in this section nicely, noting in recapping post-crisis interviews it conducted that market participants were "generally reluctant to blame the CRAs for not foreseeing the wider implications of the subprime crisis, often noting that the CRA's recent shortcomings in risk evaluation were widely shared among market participants."<sup>120</sup>

### **III.B.3. Plaintiffs have not shown that the alleged misrepresentations caused Moody's ratings actions during the crisis, or any related stock price drop**

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<sup>117</sup> Gary Gorton (2008), "The Panic of 2007," NBER Working Paper, p. 70; "Global Financial Stability Report: Containing Systemic Risks and Restoring Financial Soundness," *International Monetary Fund*, April 2008, pp. 12-13, 52, 78.

<sup>118</sup> "Global Financial Stability Report: Containing Systemic Risks and Restoring Financial Soundness," *International Monetary Fund*, April 2008, pp. 50-52. Also note that Bloomberg reported \$332 billion of write-downs "stem[ming] from the collapse of the U.S. subprime- mortgage market" for banks and securities firms globally from the beginning of 2007 to May 2008. ("Subprime Losses Top \$379 Billion on Balance-Sheet Marks: Table," *Bloomberg*, May 19, 2008).

<sup>119</sup> "Global Financial Stability Report: Containing Systemic Risks and Restoring Financial Soundness," *International Monetary Fund*, April 2008, pp. 12, 78.

<sup>120</sup> "Ratings in Structured Finance: What Went Wrong and What Can be Done to Address the Shortcomings?," *Bank for International Settlements, Committee on the Global Financial System*, July 2008, p. 8.

87. Had Moody's been systematically inflating ratings because the structured finance market was overly prone to potential conflicts of interest as Plaintiffs allege, data on ratings performance should also reveal such inflation to market participants, arguably even before the purported Class Period. However, it does not appear from the evidence on the historical performance of structured finance ratings that they performed systematically more poorly than the corporate finance ratings.<sup>121</sup>

88. In a study of rating transitions from 1984 to 2008, Moody's reports that 97.79% of structured finance Aaa-rated issues still had that rating twelve months later in contrast to 92.76% of the Aaa-rated corporate debt issues.<sup>122</sup> An independent study published in 2004 concludes that the probability of default after five years for an Aaa-rated asset-backed securities ("ABS"), commercial mortgage backed securities ("CMBS"), or RMBS issue was 0.01% or less, in contrast to 0.17% for an identically-rated corporate bond.<sup>123</sup> In a Moody's study published in 2005, it was reported that the cumulative loss rate for initially Aaa-rated structured finance securities was 0.04% after 5 years during the period 1993-2004, and the cumulative loss rate was 0.00% for home-equity loan deals, including subprime securities.<sup>124</sup> Strikingly, at the time, some researchers criticized the agencies for being too conservative in their ratings of structured finance.<sup>125</sup>

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<sup>121</sup> The traditional approach to evaluating the performance of credit ratings is to consider rating transitions, i.e., changes in ratings, across long periods of time and across different sectors.

<sup>122</sup> "Structured Finance Rating Transitions: 1983-2008," *Moody's Investors Service*, March 2009.

<sup>123</sup> Douglas J. Lucas, Laurie S. Goodman, and Frank J. Fabozzi (2004), "Default Rates on Structured Finance Securities," *Journal of Fixed Income*, pp. 44-53.

<sup>124</sup> "Default & Loss Rates of Structured Finance Securities: 1993-2004," *Moody's Investors Service*, July 2005, pp. 38-39. Another striking piece of evidence is that from 1984 to 2004 on average only 0.03% of Aaa-rated structured finance securities reached an extremely distressed rating of Caa or lower twelve months later. ("Structured Finance Rating Transitions: 1983-2005," *Moody's Investors Service*, February 2006, p. 8).

<sup>125</sup> Douglas J. Lucas, Laurie S. Goodman, and Frank J. Fabozzi (2004), "Default Rates on Structured Finance Securities," *The Journal of Fixed Income*, pp. 44-53.

It was always clear, however, that ratings volatility for corporate bonds and structured finance transactions was different. For instance, for the period 1984-2008, the average downgrade for a structured finance security was 6.99 notches; it was 1.78 notches for a corporate debt issue. Nonetheless, this does not indicate that the initial structured finance rating was of poor quality, because a rating is not meant to say anything about the extent of a potential downgrade. See: "Structured Finance Rating Transitions: 1983 – 2009," *Moody's Investors Service*, March 2009, p. 12. This was also noted in studies before the purported Class Period. See, for example: "Structured Finance Rating Transitions: 1983 – 2005," *Moody's Investors Service*, February 2006, p.2.

## EXHIBIT 1

89. In 2007, Moody's downgraded 8,725 structured finance issues and the average downgrade was almost twice the size of the average downgrade in 2006.<sup>126</sup> Plaintiffs attribute the unusual waves of downgrades to Moody's alleged misrepresentations regarding its independence.<sup>127</sup>

90. However, the unusually high rate of downgrades in 2007 took place mostly in one segment of the structured finance universe, namely structured finance deals that had subprime loans as collateral. U.S. ABS (excluding home equity loans) and CMBS, for example, had a much lower downgrade rate than historical average.<sup>128</sup> In contrast, home equity loan deals (including subprime) experienced a downgrade rate of 18.1%, which was six times the average annual rate of 3.0% from 1998 to 2007,<sup>129</sup> and accounted for 61.2% of the total downgrades in 2007 although these securities represented only 25.3% of total rated structured finance securities outstanding as of January 1, 2007. In addition, almost 80% of the home equity loan securities downgrades in 2007 were for securities issued in 2006 and 2007.<sup>130</sup>

91. The fact that only a very specific sector of the structured finance market was the root of the recent crisis suggests that *endemic* conflicts of interest did not plague Moody's structured finance ratings systematically, as Plaintiffs suggest. The historic rating performance record for this sector and for structured finance in general had been good prior to the crisis, and it is hardly unusual for ratings downgrades to be clustered in a

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<sup>126</sup> "Structured Finance Rating Transitions: 1983-2007," *Moody's Investors Service*, February 2008, p. 5-6. Despite the unusual downgrades, the downgrade rate that year was higher for corporate debt than it was for structured finance: 8.72% versus 7.40% (*Ibid.*, p. 10).

<sup>127</sup> Complaint, ¶¶ 248-280.

<sup>128</sup> According to a Moody's study, U.S. ABS securitizations excluding home equity loans (home equity loans include subprime) had a downgrade rate of only 0.4% in 2007, much lower than the average annual downgrade rate of 4.8% from 1998 to 2007. Notably, 0.0% of credit card and auto loan securitizations, and only 0.1% of student loan securitizations, were downgraded. Similarly, U.S. CMBS had a downgrade rate of 0.8% in 2007, lower than the historical average of 2.6%; U.S. CBO, CLO, and synthetic CDOs had downgrade rates from 0.2% to 2.7%, all lower than the historical average. In fact, for U.S. ABS securitizations other than home equity loans, CMBS, CBOs, and CLOs, the upgrade rate *exceeded* the downgrade rate in 2007. ("Structured Finance Ratings Transitions: 1983-2007," *Moody's Investors Service*, February 2008).

<sup>129</sup> *Ibid.*, pp.2, 4-5, 26. Structured finance CDOs experienced a downgrade rate of 20.1% because of the problems with subprime and Alt-A loans originated in 2006 and 2007.

<sup>130</sup> Similarly, 90% of US CDO downgrades in 2007 occurred among structured finance CDOs issued in 2006 and 2007 that had the most significant exposures to the poorly performing 2006 and 2007 subprime and Alt-A vintages. (*Ibid.*, p. 4-5, 15-16, 25-26).

sector when market conditions change.<sup>131</sup> The downgrades resulting from the subprime crisis were consistent with other historic examples of clustering when a common shock affects multiple firms or structured finance deals, and therefore are not evidence that the initial ratings for subprime securities were systematically and purposefully biased.

92. Additionally, Plaintiffs fail to connect the ratings downgrades to declines in Moody's stock price. If Plaintiffs' claims were true, one would expect Moody's rating actions and announcements that allegedly revealed the fraudulently inflated ratings and resulted in "demolishing" the structured finance market to be associated with significant stock price declines. However, Plaintiffs fail to show that major downgrade announcements in 2007 and 2008 were associated with significant stock-price declines, and in my examination I have not found evidence to support the claimed connection.<sup>132</sup>

**III.B.4. Plaintiffs fail to demonstrate that the decline in Moody's stock price over the Class Period was due to alleged misrepresentations**

93. Plaintiffs claim that "[a]s Moody's misconduct and misrepresentations slowly came to light, occasioning severe regulatory scrutiny and sanctions, Moody's reputation and Moody's structured finance rating business collapsed, directly causing Moody's share price to collapse."<sup>133</sup> Implausibly, Plaintiffs attribute none of the decline in Moody's stock price and business performance, or the structured finance market's contraction, to the unprecedented and unexpected financial crisis.

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<sup>131</sup> It has been always clear that a key lesson from the NBER study applies to both corporate and structured finance ratings, namely that the credit quality of whole sectors can deteriorate so that bonds throughout that sector will experience clustered downgrades and defaults. Researchers at Moody's published a study that made this point regarding defaults very explicitly in 2001. See: Richard Cantor and Eric Falkenstein (2001), "Testing for Rating Consistency in Annual Default Rates," *The Journal of Fixed Income*, v11(2), pp. 36-51

<sup>132</sup> The following ratings actions and announcements, for example, were not associated with statistically significant negative stock returns: "Announcement: Moody's comments on today's rating actions on second-lien RMBS," *Moody's Investors Service*, June 15, 2007; "Moody's Downgrades Subprime First-Lien RMBS," *Moody's Investors Service Press Release*, July 10, 2007; "Moody's Puts 184 CDO Tranches on Review for Possible Downgrade," *Moody's Investors Service Press Release*, July 11, 2007; "Moody's slashes ratings on 691 securities backed by 'piggyback' loans," *Associated Press Newswires*, August 16, 2007; "Rating Action: Moody's downgrades ratings of 120 subprime RMBS tranches issued in 2005," *Moody's Investors Service*, August 22, 2007; "Rating Action: Moody's Downgrades \$33.4 billion of 2006 Subprime First-Lien RMBS and Affirms \$280 billion Aaa's and Aa's," *Moody's Investors Service*, October 11, 2007; "UPDATE: Moody's Downgrades Or Gives Warning On \$40B In CDOs," *Dow Jones News Service*, March 27, 2008.

<sup>133</sup> Memorandum for Class Certification, p. 9.

94. Instead, Plaintiffs claim that “[t]his latter collapse [of Moody’s stock price] was specific to Moody’s, whose share price trajectory followed its own path – demarcated by company-specific corrective disclosures – rather than set by the market or industry.”<sup>134</sup> Plaintiffs fail to acknowledge that the decline in the stock price was common to companies in the financial sector and even the whole market during the relevant period. As Exhibit 13 shows, the evolution of Moody’s stock price over the proposed Class Period is similar to that of its principal peers McGraw-Hill and Fimalac, to that of a broad index of financial firms, and to that of the broader stock market as a whole. Moody’s stock held up well from the beginning of the purported Class Period until July 2007.<sup>135</sup> From July 2007 through the last alleged disclosure day (October 22, 2008), the stock prices of the credit rating agencies, financial firms, and the broad market all suffered steep declines as a result of the financial crisis. Lost market capitalization was not unique to Moody’s. Specifically, Moody’s stock price dropped 64.78% from July 2, 2007 to October 22, 2008. In comparison, McGraw-Hill’s stock price dropped 65.76%, Fimalac’s stock price dropped 47.20%, the S&P 500 Financials index (which includes a broad list of banks, saving and loan associations, asset management firms, insurance companies, and other finance service companies) dropped 58.33%, and the NYSE index dropped 40.19% during the same time period.<sup>136</sup>

95. Second, Plaintiffs neglect the fact that Moody’s business and stock performance was correlated with (and largely driven by) the growth of the credit markets. This was true historically and during the purported Class Period. Financial analysts view Moody’s stock as “in effect, an investment in the long-term growth of the debt capital markets,” and therefore “[n]ew issue dollar volume is a key driver of revenue and profitability growth for Moody’s.”<sup>137</sup> Exhibit 14 shows that Moody’s financial results by segment were highly correlated with issuance activity in the credit markets. As a result,

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<sup>134</sup> *Ibid.*, p. 10.

<sup>135</sup> Moody’s closing stock price was \$63.89 as of February 3, 2006, and \$62.04 as of July 2, 2007.

<sup>136</sup> All these stock returns are adjusted for splits and dividends. The difference between Moody’s stock price drop and that of the S&P 500 Financials index is not statistically significant.

<sup>137</sup> “We have found a strong relationship between Moody’s ratings revenue growth and ‘adjusted’ new issue dollar volume growth (correlation of 0.75).” (“Ests. Raised: Q4 Strength Broad-Based,” *Citi*, January 16, 2007). Also see: “Not surprisingly, there is a fairly high correlation between rate of change in new issue bond volumes and growth in rating agency revenues ... We calculate an R-squared of about 48% between these variables.” (“MCO & MHP: Measuring downside risk amid credit market turmoil,” *Goldman Sachs*, August 29, 2007).



## EXHIBIT 1

securities analysts have always paid great attention to analyzing and projecting Moody's rating revenue from issuance activities in different sectors and geographical segments.<sup>138</sup> For example, in the first half of 2007, analysts were aware of the recent-vintage subprime woes, but given that Moody's had only 7-8% revenue exposure to subprime related issues,<sup>139</sup> they were cautiously optimistic about Moody's business fundamentals.<sup>140</sup>

96. When the subprime problems started to deepen and spill over to the general credit markets in July and August 2007, however, Moody's earnings prospect became uncertain (see Exhibit 15). On July 2, 2007, a JP Morgan analyst stated that "we believe that recent events in the credit ecosystem have raised the risk that growth could slow more than anticipated in 2H...Whether the credit markets have reached an inflection point is an open question mark."<sup>141</sup> Indeed, with the liquidity crisis unfolding in the third quarter of 2007, ratings revenue growth came to an abrupt halt -- as shown by Exhibit 14 -- and Moody's stock price declined.<sup>142</sup>

97. However, if as Plaintiffs allege, Moody's rating business declined because Moody's rating independence was compromised,<sup>143</sup> one would expect its business to be impacted

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<sup>138</sup> See, for example: "We continue to believe that MCO is a growth business due to secular growth drivers, though the exceptionally benign credit cycle has been quite extended." ("Moody's Corp.: Management Meeting Highlights," *JP Morgan*, February 28, 2007). "Moody's debt rating business is highly diversified, both from a product and geographical standpoint, and we continue to expect solid revenue and EPS growth in '07." ("Moody's Corp.: Upgrading Moody's To Buy 2 On Valuation," *UBS*, March 16, 2007).

<sup>139</sup> "Moody's Corp. (MCO- \$68.79 – Peer Perform): Subprime Pain/Concern Hurting MCO Shares," *Bear Stearns*, February 22, 2007; "Moody's Corporation (MCO): Comments on Sub-Prime Weakness," *Citi*, February 22, 2007; "Moody's Corporation: Subprime exposures manageable, but..." *Merrill Lynch*, March 5, 2007.

<sup>140</sup> "Moreover, the diversity of the revenue base should mitigate the impact from a slowdown in issuance in any one asset class (such as RMBS) and/or higher interest rates." ("Moody's: Raising Estimates and Rating to Overweight," *Morgan Stanley*, June 6, 2007). "Our regression ... predicts a higher increase in revenues after the strong May. Strong growth in US Corp Fin more than offset slight US ABS decline." ("Moody's Corp (MCO): May Flowers After April Showers," *Citi*, June 18, 2007). Also see: "Moody's Corp: Highlights From Moody's Investor Day," *UBS*, June 6, 2007.

<sup>141</sup> "Moody's Corp: Downgrading to Neutral Due to Higher Risk Profile," *JP Morgan*, July 2, 2007. Similarly, on August 1, 2007, a Goldman Sachs analyst stated that "[w]e believe that the prospect of decelerating earnings growth and the looming uncertainty in the credit markets will pressure the shares and lead to significant near-term volatility." "Moody's Corp (MCO): Great long-term fundamentals, but too soon to own stock," *Goldman Sachs*, August 1, 2007.

<sup>142</sup> From February 2004 through July 2007, Moody's P/E ratio, a useful metric to assess the earnings growth potential, was generally higher than that of the Russell Growth 1000 index (of which Moody's stock was a member during the purported Class Period). Given that Moody's had been viewed by the market as a growth stock, it is not surprising that even a modest revision of its future earnings prospects could have impacted the value of the stock substantially. Richard Sloan and Douglas Skinner (2002), "Earnings Surprises, Growth Expectations, and Stock Returns or Don't Let an Earnings Torpedo Sink Your Portfolio," *Review of Accounting Studies*, Volume 7, Numbers 2-3/June, pp. 289-312.

<sup>143</sup> Complaint. ¶¶ 366-392.

across the board *at once*. Exhibits 16 and 17, on the other hand, show that the revenue of Moody's various segments did not move in a synchronized fashion, but in correlation with how and when each sector was impacted by the crisis. For example, while the U.S. RMBS rating revenue dropped 52% year-over-year in Q3 2007, the U.S. CMBS and ABS rating business held up relatively well or even grew over the same quarter in the prior year (Exhibit 17).<sup>144</sup> Interestingly, international structured finance revenues grew by 10% year-over-year, including a 32% increase from RMBS, reportedly because the European market did not include as much subprime credit or experience a housing downturn to the same extent as the U.S.<sup>145</sup>

98. Third, Plaintiffs' view that the revelation of Moody's alleged misrepresentations caused a "collapse" of Moody's business franchise and stock value was not shared by securities analysts. Had the decline in Moody's ratings business been primarily caused by damage to Moody's ratings integrity, such a decline would be permanent and would not rebound with economic recovery (and increasing bond issuance). Financial analysts, however, viewed lost ratings business as largely cyclical and expressed confidence in Moody's franchise value and long-term prospects even after the purported Class Period. On October 26, 2007, for instance, a Goldman Sachs analyst stated that "we believe the pressures facing these companies are cyclical in nature and don't represent a structural change in the economics of their business models."<sup>146</sup> In October 2008, a William Blair analyst stated that "[w]e believe that Moody's competitive stature and franchise will be relatively unchanged from what has been true over the past 108 years... As such, we believe that Moody's will be re-engaged by debt issuers of all kinds once the crisis passes."<sup>147</sup> Similarly, a Citi analyst stated "we expect Moody's to recover as the US economy climbs out of the recession, but more importantly, when the global financial system stabilizes. Moody's has reported strong

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<sup>144</sup> "Q3 2007 Moody's Corporation Earnings Conference Call," *Fair Disclosure Wire*, October 24, 2007; the RMBS segment includes home equity loans and subprime securities.

<sup>145</sup> Another counterexample can be seen by the fact that Moody's revenue from rating financial institutions and public finance continued to grow during Q3 2007 and in subsequent quarters. See: "Q3 2007 Moody's Corporation Earnings Conference Call," *Fair Disclosure Wire*, October 24, 2007; "Q4 2007 Moody's Corporation Earnings Conference Call," *Fair Disclosure Wire*, February 7, 2008.

<sup>146</sup> "Revisiting the rating agencies post 3Q results," *Goldman Sachs*, October 26, 2007.

<sup>147</sup> "Moody's Corporation: Cutting Estimates in Light of Credit Market Shutdown, but Maintain Outperform Rating," *William Blair & Company*, October 9, 2008.

revenue and EPS growth coming out [sic] previous economic downturns, and we don't expect this episode to be different."<sup>148</sup>

99. In sum, Plaintiffs' theory that Moody's alleged misrepresentations caused a unique decline in its stock price beginning in the fall of 2007 cannot be reconciled with the facts (1) that the market and the industry suffered similar declines during the same period; (2) that Moody's financial performance can be largely explained by the development of the general credit markets; and (3) that financial analysts view Moody's stock price decline as mostly cyclical.

### **III.B.5. Plaintiffs fail to demonstrate investors suffered any loss due to alleged corrective disclosures**

100. Contrary to Plaintiffs' claim, Moody's stock price movement during the purported Class Period reflected industry and market developments. In this section I will examine whether Plaintiffs have demonstrated that Moody's stock price moved in a statistically significant manner on specific days when alleged corrective disclosures occurred.
101. For an alleged disclosure to be deemed the proximate cause of an investor's loss, a financial economist would expect to observe a statistically significant negative abnormal return on that date. However, even when the negative abnormal stock return is statistically significant on a particular alleged curative disclosure day, my understanding is that the Plaintiffs have to show that the negative abnormal return was indeed caused by the revelation of previous alleged misrepresentations rather than other pertinent information in the market place. The mere fact the stock price declined is not enough to prove that an investor's loss was caused by an alleged disclosure because the observed price decline may have been driven by market or industry factors, or other non-fraud-related firm-specific factors. As discussed previously, the presence of a negative but statistically insignificant firm-specific abnormal return is not sufficient evidence of loss causation because such a return cannot be distinguished from random noise. Therefore, by failing to provide an event study or any scientific empirical

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<sup>148</sup> "Q3 Rating Agency Preview/Sept New Issuance: Won't Try to Call the Bottom, but Govt Actions Bring Relief," *Citi*, October 15, 2008.

## EXHIBIT 1

evidence, Plaintiffs have failed to demonstrate that Moody's shareholders suffered any losses due to alleged corrective disclosures.

102. I have examined the stock price movements, as well as the newspaper articles, analyst reports, and other public information surrounding the four corrective disclosures specifically mentioned in the Opinion and Order dismissing some of Plaintiffs' claims,<sup>149</sup> as well as any additional alleged disclosure days specifically referenced in Plaintiffs' Memorandum for Class Certification (see Exhibit 6).<sup>150</sup> Of the four alleged disclosure days specifically mentioned by the Opinion and Order, only May 21, 2008 is associated with a statistically significant negative stock price movement, while the October 12-17, 2007, April 11, 2008, and October 22, 2008 alleged disclosures are not.<sup>151</sup>

103. The following sub-sections individually address the few Plaintiff-alleged disclosure days (August 20, 2007, October 24-25, 2007, and May 21, 2008) with statistically significant abnormal returns, and show that there is no scientific basis to attribute the abnormal returns to Plaintiffs' allegations.

### III.B.5.a. August 20, 2007

104. On August 20, 2007, Senator Richard Shelby, the ranking member of the U.S. Senate Banking, Housing, and Urban Affairs Committee, made a remark that rating agencies "have played a central role in the subprime debacle," and hence they must "shoulder some responsibility."<sup>152</sup> This news is cited by Plaintiffs as a corrective

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<sup>149</sup> In Re: Moody's Corporation Securities Litigation, Opinion and Order, Filed February 23, 2009, pp. 35-37. These four disclosures include an article from *Financial Times* alleging Moody's changed its methodology to mask a rating error on May 21, 2008, Moody's CEO testifying at a Congressional hearing on October 22, 2008, an article from *The Wall Street Journal* alleging that Moody's adjusted a bond rating in a case of ratings shopping on April 11, 2008, and a report titled "October 11, 2007 Rating Actions Related to 2006 Subprime First-Lien RMBS" that was supposedly discussed in a conference call on October 12, 2007 and sent to investors on October 17, 2007.

<sup>150</sup> Memorandum for Class Certification, pp. 9-10.

<sup>151</sup> In Re: Moody's Corporation Securities Litigation, Opinion and Order, Filed February 23, 2009, pp. 35-36.

<sup>152</sup> Complaint ¶400; "US senator sees sub-prime crisis getting worse before better," *Agence France Presse*, August 20, 2007, 6:33 AM; "U.S. legislators will quiz rating agencies - Senator," *Reuters News*, August 20, 2007, 9:06 AM.

## EXHIBIT 1

disclosure that “regulators were calling for investigation of Moody’s structured finance ratings operations.”<sup>153</sup> On the same day, Moody’s stock price dropped 8.18%.

105. First, it was not new news that Moody’s was facing Congressional scrutiny related to the subprime crisis.<sup>154</sup> On June 29 an article noted, Congressman Barney Frank, Chairman of the House Financial Service Committee, had announced a potential hearing on rating agencies.<sup>155</sup> On August 1, Senator Christopher Dodd, Chairman of the Senate Banking Committee, stated that the Senate Banking Committee would introduce legislation to address rating agencies’ conflicts of interest issues, and on August 17, Dodd again “expressed ‘great concern’ about how credit rating agencies assessed and rated packages of mortgage related assets” during a conference call with reporters and promised to conduct a “thorough examination” of credit rating agencies.<sup>156</sup> Therefore, the remark made by Senator Shelby did not represent any new information on the Congressional scrutiny Moody’s had been facing. In an efficient market, stock prices should react only to new material information.<sup>157</sup> Plaintiffs fail to show why the stock price drop on August 20, 2007 was due to the alleged corrective disclosure, which contained little, if any, new information that was supposedly negative.<sup>158</sup>

106. Second, not only did Senator Shelby’s comment contain little new negative information, it seemed to contain some positive information. Although he had publicly

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<sup>153</sup> Memorandum for Class Certification, p. 10.

<sup>154</sup> For example, a Moody’s official testified before the Subcommittee on Securities, Insurance and Investment of the Senate Banking Committee, at a hearing entitled “Subprime Mortgage Market Turmoil: Examining the Role of Securitization” on April 17, 2007. <[http://banking.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing\\_ID=a1499817-0b7d-4deb-8e2b-cc11fa95d79f](http://banking.senate.gov/public/index.cfm?FuseAction=Hearings.Hearing&Hearing_ID=a1499817-0b7d-4deb-8e2b-cc11fa95d79f)>

<sup>155</sup> Congressman Barney Frank stated that lawmakers might examine the role of credit rating agencies if there were more hedge fund meltdowns due to subprime losses. “US rating agencies again seen as scapegoat,” *Reuters News*, June 29, 2007, 6:25 PM. Moody’s abnormal stock return is not statistically significant on June 29, 2007 nor on either surrounding trading day.

<sup>156</sup> “Moody’s, S&P May Need Better SEC Regulation, Senator Dodd Says,” *Bloomberg*, August 1, 2007; “Hike caps on mortgage holdings, says Dodd,” *Investment News*, August 17, 2007, 1:56 PM; “Dodd Reiterates Call To Increase GSEs’ Portfolio Limits,” *Congress Daily*, August 17, 2007, 2:17 PM; “Senator urges examination of ratings agencies,” *Reuters News*, August 17, 2007, 4:48 PM. Moody’s abnormal stock return is not statistically significant on August 1 or August 17, 2007.

<sup>157</sup> Richard A. Brealey and Stewart C. Myers (2003), “Principles of Corporate Finance,” 7<sup>th</sup> Edition, *McGraw-Hill*, pp. 351-358.

<sup>158</sup> On that same day, “J.P. Morgan analyst downgrades McGraw-Hill to ‘Neutral’ on credit market turmoil,” *Associated Press Newswires*, August 20, 2007, 7:13 AM. The JP Morgan downgrade of McGraw Hill was “principally due to signs that the credit markets will see a meaningful decline in issuance activity. Given the current freeze in some credit markets, we would expect MHP’s shares to tread water in the near term.” (“The McGraw-Hill Cos.: Downgrading to Neutral,” *JP Morgan*, August 20, 2007). I show in my work with Roger Loh that an analyst recommendation change on one stock can impact other firms in the same industry (Roger K. Loh and René M. Stulz, (2010) “When are Analyst Recommendation Changes Influential?,” Ohio State University Working Paper).

been a “persistent critic” of rating agencies,<sup>159</sup> Senator Shelby urged “legislative restraint” in his speech, and his comment was published with the headline “Lawmakers Must Not Over-Regulate Credit Agencies – US Senator” by *Dow Jones International News*. In the article, Senator Shelby was quoted as saying “[t]here will be calls for more regulation... My first thought is let’s not over-regulate the market, the market will regulate itself.”<sup>160</sup> Compared with Senator Dodd’s earlier promise to introduce new legislation, Senator Shelby’s comment would tend to alleviate Moody’s regulatory risk to some extent.

107. Third, the intra-day price movement on August 20, 2007 is inconsistent with Plaintiffs’ claim that the alleged statement caused Moody’s stock price to drop (see Exhibit 18). In an efficient market, academic studies find that it usually takes minutes or several trades for stock prices to reflect new material information, especially for overnight news.<sup>161</sup> Although Senator Shelby’s remark was made overnight, Moody’s stock price opened at approximately \$49.30 on August 20, compared to the closing price of \$49.98 on August 17, the previous trading day, and it declined throughout the remaining trading hours. Plaintiffs fail to explain why Moody’s stock price did not respond immediately to the alleged disclosure, as it should have in a supposedly efficient market had the alleged disclosure contained material information.

108. Finally, Plaintiffs simply fail to show how Senator Shelby’s remark relates to Plaintiffs’ allegations. In particular, he could have made the same comments in the

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<sup>159</sup> “Democrats Turning To Credit Rating Agencies’ Role In Subprime Loan Crisis,” *Congress Daily*, April 18, 2007. Also see, for example: Senator Shelby’s remarks in “Dodd: Fed Failed In Supervisory Role In Subprime Loans,” *Congress Daily*, March 22, 2007; “Sen Christopher J. Dodd Holds a Hearing on the Mortgage Market—Committee Hearing,” *CQ Transcriptions*, March 22, 2007. For Senator Shelby’s comments on rating agencies before the financial crisis, see, for example: “Examining the Role of Credit Rating Agencies in the Capital Markets,” Hearing before the Committee on Banking, Housing, and Urban Affairs, February 8, 2005; “Credit ratings groups come under attack,” *Financial Times*, March 8, 2006; “Moving the Market: Credit-Rating Industry May Get More Oversight --- Congress Pushes Legislation To Encourage Competition; SEC Role Comes Under Fire,” *The Wall Street Journal*, March 8, 2006; “Politics & Economics: Credit-Rating Oversight Measure Is Supported by a Senate Panel,” *The Wall Street Journal*, August 3, 2006.

<sup>160</sup> “Lawmakers Must Not Over-Regulate Credit Agencies – US Senator,” *Dow Jones International News*, August 20, 2007, 11:52 AM.

<sup>161</sup> See: Michael Barclay and Robert Litzenberger (1988), “Announcement Effects of New Equity Issues and the Use of Intraday Price Data,” *Journal of Financial Economics*, v21, pp. 71-99; Jason T. Greene and Susan G. Watts (1996), “Price Discovery on the NYSE and the NASDAQ: The Case of Overnight and Daytime News Releases,” *Financial Management*, v25(1), pp. 19-42; Jeffrey A. Busse and T. Clifton Green (2002), “Market efficiency in real time,” *Journal of Financial Economics*, v65, pp. 415–437; Raymond M. Brooks, Ajay Patel, and Tie Su (2003), “How the Equity Market Responds to Unanticipated Events,” *Journal of Business*, v76(1), pp. 109-133.

absence of the wrongdoing alleged by Plaintiffs. Moreover, any potential regulatory scrutiny or legislative action can be costly to a company without any implication of fraud on the company's part. For example, new regulations on rating agencies could imply higher compliance costs, greater uncertainty of the competitive environment, or even required changes to the business model. The risk of these regulatory ramifications had been discussed by analysts extensively, even before the subprime crisis started.<sup>162</sup> I am not aware of any securities analyst who covered Moody's stock at that time commenting on Senator Shelby's remarks on August 20, 2007, let alone suggesting that it revealed any alleged wrongdoing by Moody's. Therefore, even if Moody's stock price reacted negatively to Senator Shelby's remark, Plaintiffs have not demonstrated that investors suffered losses due to revelation of any alleged prior misrepresentation by Moody's on August 20, 2007.

### III.B.5.b. October 24-25, 2007

109. On October 24, 2007, Moody's announced quarterly earnings for Q3 2007 and lowered its full year 2007 guidance due to a steep decline in revenue from its structured finance line of business.<sup>163</sup> Plaintiffs allege that this announcement represents a disclosure by Moody's on "the collapse of its structured finance ratings business."<sup>164</sup> Moody's stock price dropped 3.06% on October 24, 2007, and 5.66% on October 25, 2007. The Complaint cites the earnings release and the conference call on October 24,

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<sup>162</sup> For example, see: "[T]here is some degree of risk, albeit small in our view, that the SEC could increase unfavorable legislation. Moody's could also face heightened competition from niche companies, particularly in international markets where local governments may provide support." ("Moody's Corp: Expect Solid 4Q06; Growth Should Decelerate in 2007," *JP Morgan*, January 22, 2007). "Although we view it as unlikely, the risk exists that a policymaking body somewhere in the world could meaningfully damage Moody's business model and/or market leadership position by legislative or regulatory action." ("4Q06 Preview--Raising Estimates Again on Strong Industry Comps," *FBR Research*, January 26, 2007). "The regulatory compliance costs may place an asymmetrical burden on smaller agencies, but is unlikely to keep potential competitors from entering the space." ("Moody's Corporation: Raised guidance largely in line with expectations," *Merrill Lynch*, June 6, 2007). "[T]he worst case scenario from a regulatory standpoint would be a recommendation to alter the current pricing structure from one in which most rating agencies get paid by the issuers they rate. This would dramatically impact the profitability of the rating agencies." ("Moody's: Sub-prime Issues Manageable; Buying Opportunity," *Morgan Stanley*, June 28, 2007). "Some investors are speculating that legislators and regulators will devise rules to reduce the market dominance of the two major credit rating agencies, as a result of the perception that the rating agencies misjudged the credit worthiness of a lot of these RMBS and CDOs.... While we see the potential for more political heat on the rating agencies, they have been in existence for a long time and survived reputation risks before." ("Moody's Corporation: Bull-bear analysis; Q2 preview," *Merrill Lynch*, July 12, 2007).

<sup>163</sup> "Moody's Profit Falls 13% as Credit Slump Slows Ratings Demand," *Bloomberg*, October 24, 2007, 7:09 AM; "Q3 2007 Moody's Corporation Earnings Conference Call," *Fair Disclosure Wire*, October 24, 2007, 11:30 AM; "Moody's Cut to 'Underweight' at JPMorgan," *Bloomberg*, October 25, 2007, 7:34 AM.

<sup>164</sup> Memorandum for Class Certification, p. 10.

## EXHIBIT 1

2007 as the corrective disclosure.<sup>165</sup> If Moody's stock traded in an efficient market, as claimed by Plaintiffs,<sup>166</sup> the stock price should react immediately to new material information, as discussed above. The earnings release was made before the start of trading on October 24, 2007, and the conference call concluded well before the end of the trading day. Although there was ample time for the new information to be incorporated into the stock price on October 24, the abnormal return on October 24, 2007 is not statistically significant.

110. The abnormal stock return on October 25, 2007 is negative and statistically significant. However, Plaintiffs fail to show why the price movement on October 25, 2007 was in reaction to the purported disclosures on the previous day, rather than the incremental events and news that occurred afterwards.<sup>167</sup>

111. More importantly, Plaintiffs do not demonstrate how the reported declining revenue or forecast reductions due to the disruption in the credit markets represents a curative disclosure of the alleged misrepresentations, or even "collapse of [Moody's] structured finance rating business." As discussed in sections III.B.1. and III.B.4., there is no basis on which to assert that Moody's caused the financial crisis, or the credit market contraction that contributed to Moody's negative earnings news. I have reviewed the public press and financial analyst commentary on October 24 and 25, 2007, and none of the commentary linked the negative earnings news to Moody's alleged compromise of independence, failure to adhere to the Code of Conduct, or conflicts of interest. Instead, analysts viewed the diminishing rating revenue from several structured finance asset categories as the results of the credit crisis, and

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<sup>165</sup> Complaint ¶¶377, 378, 400.

<sup>166</sup> Memorandum for Class Certification, pp. 18-21.

<sup>167</sup> JP Morgan downgraded Moody's stock and reduced 2008 EPS estimate on October 25 due to concerns over the credit market and the regulatory environment: "[w]e rate MCO Underweight as we see the shares facing continued near-term pressure owing to investor concerns about the subprime fallout and the adverse impact of less issuer friendly debt markets. Credit markets have not reached an inflection point yet in our view.... Ratings agencies are currently facing heightened scrutiny as the credit markets have deteriorated. Investor sentiment would improve should the current regulatory structure remain largely unchanged." ("Moody's Corp: Downgrading to Underweight; Lowering Ests," *JP Morgan*, October 25, 2007). Also see, "Lowering estimates to reflect run rate trends," *Merrill Lynch*, October 25, 2007. In addition, after market close on October 24, 2007: "BOE Says 'Intervention' May Be Required Over Credit Ratings," *Bloomberg*, October 24, 2007, 7:15 PM.



expressed confidence in Moody's long-run prospects.<sup>168</sup> Therefore, Plaintiffs have failed to demonstrate that Moody's investors suffered losses on October 24-25, 2007 due to the alleged misrepresentations.

### **III.B.5.c. May 21, 2008**

112. On May 21, 2008, a *Financial Times* article reported that Moody's had given incorrect Aaa ratings to billions of dollars of CPDO instruments due to a glitch in Moody's computer model, and "[t]he results showed that early CPDOs might lose... up to four ratings notches." And although the senior staff reportedly knew in early 2007 about the error, rather than downgrade the instruments, they reportedly "looked at reducing assumptions about the future volatility of the credit markets" to help maintain the ratings.<sup>169</sup> Plaintiffs cite the article as "vivid confirmation of how Moody's had altered its rating methodologies to make high ratings appear justified,"<sup>170</sup> and evidence that "Moody's catered to its structured finance clients by favorably adjusting rating models."<sup>171</sup> The *Financial Times* article also triggered a series of events, including: Moody's launching an external investigation; Senator Schumer sending a letter to the SEC Chairman urging sanctions if Moody's is proved to have covered up the modeling error; and public statements by Connecticut Attorney General Blumenthal on an investigation of rating agencies.<sup>172</sup> Moody's stock price dropped 15.92% on May 21, 2008, and 6.50% on May 22, 2008.

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<sup>168</sup> "[W]e believe the pressures facing these companies are cyclical in nature and don't represent a structural change in the economics of their business models. Accordingly, we believe investors will be well rewarded in owning these shares when credit markets rebound." ("Revisiting the rating agencies post 3Q results," *Goldman Sachs*, October 26, 2007) "From a long-term perspective...we believe...concerns [of diminished revenues from rating structured products] run the risk of missing the bigger picture. There are ebbs and flows in issuance volumes by specific debt type and structure—always have been and always will be." ("Moody's Corporation: Lowering Estimates but See Wednesday's Price Action as Potentially Significant; Maintain Outperform Rating," *William Blair & Company*, October 24, 2007). Also see: "Moody's Corporation: Lowering estimates to reflect run rate trends," *Merrill Lynch*, October 25, 2007.

<sup>169</sup> Complaint, ¶¶363-365; "CPDOs expose ratings flaw at Moody's," *Financial Times*, May 20, 2008, 11:36 PM.

<sup>170</sup> Complaint, ¶400.

<sup>171</sup> Memorandum for Class Certification, p. 9.

<sup>172</sup> "UPDATE 5-Moody's launches inquiry after rating error report," *Reuters News*, May 21, 2008 3:56 AM; "MCO: Moody's: Hearing MCO downgraded to Underperform at Jefferies," *Briefing.com, Inc.*, May 21, 2008 1:57 PM; "Moody's (NYSE: MCO): Downgrading to Underperform: Report Alleges Potential Fraud in CPDO Ratings," *Jefferies*, May 21, 2008; "UPDATE: US Lawmaker Seeks SEC Probe Of Moody's Rating," *Dow Jones News Service*, May 21, 2008 5:47 PM; "Moody's Faces Connecticut Probe of Alleged 'Cover-Up' (Update1)," *Bloomberg*, May 21, 2008 7:02 PM.

113. CPDOs are highly specialized products developed in 2006 to offer investors leveraged exposure to a corporate credit portfolio.<sup>173</sup> Unlike other securities (e.g. RMBSs, CDOs) that are discussed previously and seem to be the focus of this case, CPDOs do not involve subprime mortgage related debt, and only account for a tiny fraction of structured finance issuance. One would expect that the fees that could be expected from such a niche product were too small to be material to Moody's. Contrast the less than \$1 billion of principal reportedly affected by Moody's CPDO error with over \$2.5 *trillion* of total rated structured finance issuance in 2006 alone.<sup>174</sup> Plaintiffs have not shown how the content of the *Financial Times* article about this niche product could serve as a "vivid confirmation" of the allegedly systematic rating problems for structured debt, let alone systematic rating biases due to potential conflicts of interest.
114. Several analysts seemed to view the stock price drop as an overreaction. The Benchmark analyst stated that "[w]hile we're not diminishing the seriousness of the allegations, we believe concerns about the implications of the computer error may be overblown.... In our view, the computer errors applied to a relatively small amount of highly specialized securities and it was not as pervasive as the *Financial Times* article implied." The William Blair analyst also commented that "[b]ased on what we know today, we view today's sell-off as an overreaction ... While negative insinuations are clearly made, we so far fail to see how today's news has any lasting significance for Moody's."<sup>175</sup>
115. Nonetheless, it is unsurprising that investors would react negatively to this article, as it raised some questions about the potential existence of large-scale model

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<sup>173</sup> "Constant Proportion Debt Obligations (CPDOs) are leveraged credit investment strategies which appeared in... 2006 with the aim of generating high coupons while investing in investment grade credit. The asset side of the CPDO contains two positions: a money market account and leveraged credit exposure via index default swaps on indices of corporate names, typically the ITRAXX and DJ CDX." See: Rama Cont and Cathrine Jessen (2009), "Constant Proportion Debt Obligations (CPDO): Modeling and Risk Analysis," Columbia University Working Paper.

<sup>174</sup> For total structured finance issuance figures, see: "Structured Finance Rating Transitions: 1983 – 2007," *Moody's Investors Service*, February 2008, p. 4.

<sup>175</sup> "Moody's (MCO): Impact of Computer Error Overblown. Reiterate Buy Rating," *Benchmark*, May 22, 2008; "Moody's Corporation: We Would Be Active Buyers on Today's Press-Induced Weakness," *William Blair & Company*, May 21, 2008. Also: "Ratings Are Not a Guarantee of Value— We do not believe there is material legal liability here, unless fraud is uncovered. Interestingly, S&P had similar ratings on these securities, despite differing methodologies between the agencies." ("Moody's Corp. (MCO): CPDO Ratings Glitches Likely a Tempest in a Teapot," *Citi*, May 21, 2008).

errors.<sup>176</sup> The Lehman Brothers analyst stated that “[i]n our opinion, a risk on investors’ minds is if there is a systematic problem at Moody’s with errors being made on rating complicated debt instruments like CPDOs and the like. Is it isolated to just this one product line in Europe? Or is it more widespread at Moody’s?”<sup>177</sup> Similarly, institutional investors such as one at Barclays Capital questioned, “[i]f it is true, does that mean other products haven’t been rated correctly? ... Will they be downgraded? It could lead to turmoil.”<sup>178</sup>

116. The *Financial Times* article also caused heightened uncertainty regarding potential regulatory and litigation consequences. For example, a Goldman Sachs analyst pointed out that “[t]he key question for investors is whether today’s developments represent the ‘smoking gun’ that will trigger regulatory changes or litigation that could substantially alter the economic model of the ratings industry.”<sup>179</sup> “As a growing chorus of voices calls for more government oversight of these firms,...[a] report from the *Financial Times*...has added to the skepticism about the raters and will likely fuel calls for more regulation,” commented another press article.<sup>180</sup> Indeed, as shown in Exhibit 19, Moody’s stock price substantially recovered when investors’ concerns over regulatory changes were alleviated in the subsequent weeks.<sup>181</sup> This price recovery happened even before the result of Moody’s investigation was released on July 1, 2008.

117. Contrary to what Plaintiffs allege, the external investigation found that Moody’s personnel “did not make changes to the methodology for rating European CPDOs to

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<sup>176</sup> “Small tweaks in the model can make a huge difference in a product that’s this leveraged,” said Huston Loke, the global head of structured finance at Dominion Bond Rating Service in Toronto. “They are complex, there’s a significant amount of model risk, a presumption of market liquidity and leverage.” (“Moody’s Falls Most Ever After Ratings Error Probe (Update2),” *Bloomberg*, May 21, 2008, 3:12 PM).

<sup>177</sup> “Moody’s Corp.: Financial Times Article; Added Risk?” *Lehman Brothers*, May 21, 2008.

<sup>178</sup> “Moody’s Falls Most Ever After Ratings Error Probe (Update2),” *Bloomberg*, May 21, 2008, 3:12 PM.

<sup>179</sup> “Allegations bring regulatory/legal risks to the fore,” *Goldman Sachs*, May 22, 2008. See also: “Moody’s Corp. (MCO): Shares respond to allegations in FT article,” *Goldman Sachs*, May 21, 2008.

<sup>180</sup> “CHANGING RATINGS: NYU Prof Urges Hands-Off Approach To Reform,” *Dow Jones Capital Markets Report*, May 22, 2008.

<sup>181</sup> Moody’s cumulative abnormal stock return over the period from May 21 through June 5, 2008 is not statistically significant.

mask any model error.”<sup>182</sup> The investigation found no evidence that Moody’s fraudulently inflated the structured finance ratings or concealed rating errors due to conflicts of interest. A Goldman Sachs analyst commented, “[o]ur sense is that the issue uncovered in the CPDO ratings was contained; we do not believe it points to widespread failings of the ratings process or cover-ups....The swift conclusion of this investigation and the relatively benign outcome should continue to ease investor concerns over litigation and regulatory risks to the ratings agencies.” Similarly, the analyst from Citi stated “No ‘cover-up’ or changes were made to the methodology to ‘mask’ any model error, and it does not appear that any laws were broken....The model error impacted only 11 CPDO’s with less than \$1 billion of principal.”<sup>183</sup>

118. Therefore, Plaintiffs have not demonstrated that the stock price drop on May 21, 2008 reflected a revelation of alleged prior fraudulent misrepresentations, rather than investors’ concerns about systematic model errors or regulatory risk, which could have existed regardless of any fraud.

**III.B.6. Putative class members could be situated differently with respect to loss causation**

119. Plaintiffs claim that loss causation is common to all class members and that lead Plaintiffs’ claims are typical of other potential class members. However, in reviewing their filings it seems many alleged curative disclosures occurred well after the proposed Class Period, including April 11, 2008, May 21, 2008, and October 22, 2008. The inclusion of these dates undermines Plaintiffs’ broad claims of commonality, as I will discuss below.

120. Notwithstanding my opinion that there is no scientific evidence of loss causation with respect to any alleged disclosures, to illustrate my point, assume for the sake of argument that lead Plaintiffs have a strong incentive to argue loss causation based on,

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<sup>182</sup> “Moody’s Investors Service Announces Actions After Review of European CPDO Ratings Process,” *Business Wire*, July 1, 2008. Moody’s stock price dropped 1.48% on July 1, 2008, but the price movement is not statistically significant.

<sup>183</sup> “Moody’s Corp. (MCO): Swift conclusion to CPDO investigation,” *Goldman Sachs*, July 1, 2008; “Moody’s Corp (MCO): CPDO Review Completed – Headline Risk is Subsiding,” *Citi*, July 1, 2008.

## EXHIBIT 1

for example, the alleged April 11, 2008 disclosure. The aggressive pursuit of claims relating to April 11, 2008 would not benefit class members who had already sold all their Moody's stock before April 11, and thus suffered no economic damage resulting from that alleged disclosure. Since class members who sold all their Moody's shares prior to the alleged 2008 disclosures have no economic claim to damages based on those disclosures, obviously they have a strong incentive to forsake such claims (and avoid expending extra resources) and instead aggressively pursue claims related to earlier alleged disclosure dates.

121. To put some concrete numbers behind this hypothetical situation, Exhibit 20 presents a table of quarterly institutional holdings after June 30, 2007. The exhibit demonstrates that there were indeed potential class members who were large holders of Moody's stock -- such as Marsico Capital Management and Atticus Capital -- and have no claim to alleged economic damages based on purported disclosures after March 31, 2008 as they had already liquidated their positions in Moody's stock by that date.

122. Indeed, it also appears that Charles McCurley Jr. and Local 282 Pension Trust Fund, two of the three lead Plaintiffs, sold all their Moody's stock by early September 2007 and therefore would have suffered no economic loss from subsequent purported disclosures.<sup>184</sup> Interestingly, another lead Plaintiff, Lewis Wetstein, held Moody's shares until August 2008.<sup>185</sup> So even within the lead Plaintiff group there are stark differences in incentive to pursue claims based on different alleged disclosures. Therefore, Plaintiffs fail to demonstrate that the economic issues related to loss causation are common to all class members and that lead Plaintiffs' claims are typical of other potential class members.

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<sup>184</sup> See: MCCURLEY 0001-0007; LTPF 0002852.

<sup>185</sup> See: Wetstein 0001-0003.

EXHIBIT 1

h. h. M.  
Professor René M. Stulz

May 28, 2010  
Date

**EXHIBIT 2**

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

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IN RE: MOODY'S CORPORATION	:	
SECURITIES LITIGATION	:	
	:	DOCKET NO. 07-cv-8375-GBD
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**EXPERT REPLY REPORT OF**

**RENÉ M. STULZ, PH.D.**  
**EVERETT D. REESE CHAIR OF**  
**BANKING AND MONETARY ECONOMICS**  
**OHIO STATE UNIVERSITY, FISHER COLLEGE OF BUSINESS**

**OCTOBER 22, 2010**

### I. QUALIFICATIONS & ASSIGNMENT

1. This report should be read in conjunction with my expert report dated May 28, 2010 (the “Stulz Report”), which sets forth my qualifications, my testimony experience, and my compensation.
2. I have been asked by counsel for Moody’s to examine and respond to the Report of Mr. Chad Coffman, CFA, dated August 23, 2010 (the “Coffman Report”), as well as to the testimony Mr. Coffman gave at his October 7, 2010 deposition (“Coffman Deposition”). In preparing this report, I have considered those materials, the documents listed in Appendix B, and the documents previously identified in Appendix C to the Stulz Report.

### II. SUMMARY OF OPINIONS

3. In my first report, I was asked to evaluate as a financial economist whether there is a reliable economic basis for Plaintiffs to assert that the alleged misstatements and omissions are material, caused the alleged losses to Moody’s shareholders, and were unknown to and relied upon by the members of the class proposed by Plaintiffs. My report did not address claims from an expert report because Plaintiffs had not submitted such a report. I therefore addressed the claims made by Plaintiffs in the Consolidated Amended Complaint (the “Complaint”), the Lead Plaintiffs’ Memorandum of Law in Support of Motion for Class Certification (the “Memorandum for Class Certification”), and its accompanying exhibits.
4. The opinions summarized at the beginning of the Stulz Report were as follows:
  - A. The limitations of structured finance ratings were well-known before the start of the putative Class Period.
  - B. The conflicts of interest resulting from the issuer-pay model were well-known before the putative Class Period.<sup>1</sup> The features of structured finance that Plaintiffs claim

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<sup>1</sup> In my academic work on conflicts of interest, I define “a conflict of interest as a situation in which a party to a transaction can potentially gain by taking actions that adversely affect its counterparty.” (Hamid Mehran and René M. Stulz, “The Economics of Conflicts of Interest in Financial Institutions,” *Journal of Financial Economics*, 2007, v85, p. 268). In the Stulz Report, I used the language “potential conflicts of interest.” This language seems to have been a source of confusion for Plaintiffs. To avoid this confusion, I use the language “conflicts of interest” in this report in the same way that the Plaintiffs do when they introduce the concept in the Complaint (¶ 37).



- exacerbated these conflicts were in plain view before and throughout the putative Class Period.
- C. If Plaintiffs' allegations are correct, the alleged fraud would have been known by various market participants during the putative Class Period. That knowledge would have spread to many investors in Moody's stock through various recognized channels, making reliance on an allegedly misrepresented or omitted fact the object of an individual inquiry. Additionally, if Moody's stock traded in an efficient market, the valuation impact of a fraud known by many market participants would have been rapidly incorporated in the stock price.
  - D. It does not follow from unexpected downgrades and methodology improvements that Moody's had systematically overrated structured products due to conflicts of interest.
  - E. Plaintiffs have not provided scientific evidence that the alleged misstatements were material or inflated Moody's stock price, nor have they shown that there were disclosures that cured alleged misstatements and caused investor losses. Plaintiffs fail to present a scientific method by which to establish loss causation, and fail to demonstrate that lead Plaintiffs' claims are typical of other potential class members.
5. After reviewing the Coffman Report and testimony, as well as Plaintiffs' Reply Memorandum of Law in Support of Lead Plaintiffs' Motion for Class Certification, filed August 23, 2010 ("Reply Memorandum"), my opinions are unchanged. In this report, I show that the scientific evidence that has been brought forth supports my opinions.<sup>2</sup> A summary of this report is as follows:
- A. It is contradictory for Mr. Coffman and Plaintiffs to allege that, on the one hand, there was fraud because Moody's did not disclose that it accommodated the wishes of issuers and gave inflated ratings (thereby "succumbing" to conflicts of interest), and then argue on the other hand that the issuers did not know that they were

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<sup>2</sup> The opinions offered in the Stulz Report and herein relate strictly to whether there is scientific economic evidence to claim investors' knowledge of alleged misstatements and omissions, materiality, and loss causation based on all the information and analysis performed to date. I never offered an opinion as to whether Defendants acted with scienter or actually made any misrepresentations (indeed, I took Plaintiffs' alleged misrepresentations and alleged corrective disclosures as given and assessed whether they were economically material and economically consistent with Plaintiffs' theories). Because Plaintiffs' choice not to file an expert report until reply left me no choice but to address the layman's allegations in the Complaint, the Reply Memorandum's attempt to impeach my opinions about those allegations as "improper" and "objectionable" (pp. 20-21) is misguided.

accommodated. It is even more contradictory for Mr. Coffman and Plaintiffs to argue that “Moody’s evaluations (and, in this case, lack of evaluations) were so unreasonable *ex-ante* that they can only be explained by Moody’s above-alleged conflicts,”<sup>3</sup> and then also argue that sophisticated investors were not smart enough or did not have enough resources to have already figured out the purported obviously unreasonable ratings given all the information that was in plain view at the time. Issuers, underwriters, sophisticated institutional investors, and other market participants had better information about the securities rated by Moody’s than Moody’s itself, so they could evaluate whether Moody’s opinion on their credit risk was systemically biased. In addition, some banks and investment firms also had former employees of Moody’s on their staff who would have known, in excruciating detail, how Moody’s went about rating structured finance securities.

B. Mr. Coffman acknowledges that the potential conflicts of interest related to the issuer-pay model were well-known before and during the putative Class Period.<sup>4</sup> However, he mischaracterizes the purpose of the discussion in the Stulz Report by claiming that I have not established that the market as a whole believed that Moody’s had allegedly compromised its independence prior to or during the putative Class Period.<sup>5</sup> It is undoubtedly true that there were observers who thought that Moody’s was managing conflicts of interest appropriately before, during, and even after the putative Class Period. On the other hand, as noted in a February 23, 2006 article produced by Mr. Coffman, as well as the numerous press articles and industry publications referenced in the Stulz Report, many market participants believed otherwise.<sup>6</sup> The spirited debate shows that many believed that the conflicts were not just potential, but in fact had brought about systematically biased ratings and could not be effectively managed.

C. Contrary to the false impression left by the Coffman Report, many market participants and observers evaluate the products and output of rating agencies as part

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<sup>3</sup> Complaint, ¶ 127.

<sup>4</sup> Coffman Deposition, 173:14-18.

<sup>5</sup> Coffman Report, ¶¶ 58-69.

<sup>6</sup> According to the February 23, 2006 article, a Bond Market Association study found that “45 percent of borrowers were not comfortable that agencies were effectively managing potential conflicts of interest.” “UPDATE 1-Survey shows concern over rating agency competition,” *Reuters News*, February 23, 2006, at COFFMAN 03388-9. See, Stulz Report, ¶¶ 40, 46-48.

of their job, so sophisticated investors would have known if ratings were systematically biased in favor of certain structured finance issuers to the extent alleged by Plaintiffs. In an efficient market, contrary to what Mr. Coffman seems to suggest, it is not necessary for everybody to be informed about an alleged fraud or trade on such knowledge for the valuation impact of that alleged fraud to be reflected in the stock price. Moreover, this is a situation in which many stock investors could be reasonably expected to have known of the alleged overrating since relevant information would have been held by countless former Moody's employees, employees of issuing banks, servicers, mortgage originators, credit analysts, and institutional investors. Mr. Coffman has presented no economic (or other) basis for the belief that all these people would or could have kept such information, or their opinion of Moody's rating practices, secret. Given this situation, it is not possible to determine what potential class members believed or knew about Moody's rating practices without inquiring into the basis for their individual investment decisions, thereby shedding light on whether they actually relied on the alleged misstatements and/or omissions when they purchased Moody's stock.

- D. Mr. Coffman now seems to have changed Plaintiffs' allegations in ways that cast further doubt on their ability to show *economically material* misstatements or omissions on a class-wide basis. Under their new theory, Plaintiffs allege that Moody's simply omitted the truth on the various misrepresentation dates (rather than introduced new misleading information to the market). Even if this could properly be treated as an omissions case, scientific economic evidence of materiality would still require showing that Moody's stock price would have been significantly lower absent the alleged omissions, or there was a statistically significant negative stock price reaction when the allegedly omitted information was ultimately revealed. Mr. Coffman has not even attempted to identify the events that revealed the alleged omissions, let alone offered such scientific evidence of materiality. Moreover, according to his own list of "potentially material" information and his deposition, Mr. Coffman apparently does not consider the type of information contained in most of Plaintiffs' alleged misstatements and some of their alleged corrective disclosures even

“potentially material.”<sup>7</sup> For example, Mr. Coffman failed to identify any potentially material news relating directly to the alleged conflicts of interest at the heart of this case.<sup>8</sup>

- E. Mr. Coffman does not question that the fall in Moody’s stock price over time and the drop in its revenue could be entirely explained by the financial crisis. Rather, he concludes -- in contradiction with the Complaint -- that one should focus on evidence from an event study showing that the “allegedly corrective information caused a decline in stock price.”<sup>9</sup> I agree.<sup>10</sup> Using this approach, the Coffman Report does not question my conclusion that only two alleged disclosure days have a significant negative abnormal return: August 20, 2007, and May 21, 2008. However, in a crucial shortcoming, Mr. Coffman fails to show that the alleged disclosures on these days (i.e., a Senator’s comment which, according to Mr. Coffman, may have indicated “bipartisan support for increased regulation of the credit rating agencies”<sup>11</sup> and news concerning a potential modeling error on a handful of exotic, non-mortgage-related European structured securities) would not have occurred but for Plaintiffs’ specifically-alleged misstatements or omissions. In other words, he has not tied these stock price declines to the alleged fraud. Thus, he has not provided any economic evidence suggesting the alleged misstatements or omissions were material or caused any investor losses. Mr. Coffman’s own list of potentially material news also shows a contemporaneous negative event on August 20, 2007 (an analyst report on McGraw-Hill, the parent of Moody’s main competitor, based on a negative view of future

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<sup>7</sup> See Exhibit 1 to the Coffman Report. In his deposition, Mr. Coffman offered a list of “types of news events that are clearly shown in the literature to move stock prices,” a list which did not include model errors or methodological changes (Coffman Deposition 42:25-44:18). Also, see the extensive discussion of rating methodology changes in Coffman Deposition pp. 64-79, where Mr. Coffman notes that he did not consider most methodological changes potentially material, but rather only certain changes that generated some (necessarily subjectively defined) level of market commentary. In contrast, the Complaint clearly considers methodological changes to be potential corrective disclosures, stating, for example, “Moody’s *post facto* methodology changes are a strong badge of the debasement and illegitimacy of Moody’s class period ratings models” (Complaint ¶167).

<sup>8</sup> He concluded that the limited information he did find on the issue “was not ... hidden from the market during the class period ... I wouldn’t expect it to be material to the market” (Coffman Deposition, 140:6-12; also, see Coffman Deposition, 133:5-145:12).

<sup>9</sup> Coffman Report, ¶ 86.

<sup>10</sup> Mr. Coffman questions the relevance of certain discussions related to materiality and loss causation in my report, characterizing them in places as “a distraction” (See Coffman Report, ¶¶ 11, 91; also see Reply Memorandum p. 20). However, topics such as Moody’s overall stock price decline during the purported Class Period, Moody’s role in the financial crisis, and the supposedly informative value of downgrades were all set out in the Complaint and Memorandum for Class Certification as a crucial part of Plaintiffs’ theory (as I will discuss further in this report). I introduced certain evidence in my initial report in an attempt to address these vague claims and theories, not to distract the Court in any way from legitimate issues in the case.

<sup>11</sup> Coffman Report, ¶ 98.

## EXHIBIT 2

revenue in the credit ratings industry) which could have caused the price drop. Further, when discussing the stock price drop on May 21, 2008, he seems to confuse the materiality of information regarding the importance of ratings and Moody's reputation generally with the materiality of the specifically-alleged omissions in this matter.

F. I offered no opinion on market efficiency in the Stulz Report (and was not asked to). Mr. Coffman's attempt to assess informational efficiency and show a "cause and effect relationship between Moody's-specific news and Moody's stock price movements" is subjective, unscientific, and hence unreliable.<sup>12</sup>

6. This report proceeds as follows. In the next section, I address issues concerning diffusion of knowledge about the alleged fraud. In Section IV, I show that Plaintiffs and Mr. Coffman do not provide scientific economic evidence of materiality (or loss causation). Finally, in Section V, I comment on Mr. Coffman's analysis of market efficiency.

### III. KNOWLEDGE

7. In the Stulz Report, I provided evidence that the existence of (and the risks associated with) the inherent conflicts of interest related to the issuer-pay model were well-known; that if Plaintiffs' allegations were true, the "succumbing" to, or subversion of ratings through, conflicts of interest would necessarily have been well known; that limitations of ratings were well-known; that Moody's provided a wealth of information to the markets that enabled market participants to assess the ratings it gave to structured finance securities; that many financial market participants had at least as good (if not better) information about the securities rated by Moody's as Moody's itself; that former Moody's employees (who would have had knowledge of Moody's practices) were employed throughout the financial industry; and finally that it is well-known from research in finance that information can percolate through many informal networks.
8. Mr. Coffman and Plaintiffs criticize me for discussing "potential" conflicts of interest and not demonstrating that the market as a whole believed that Moody's had succumbed to the alleged conflicts of interest. They also criticize me for not proving that every potential

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<sup>12</sup> Coffman Report, ¶ 48.

investor had the ability to unravel the alleged fraud, contending that “widely available” knowledge requires that Moody’s rating methodologies were “completely transparent” or “easily” replicable, or that investors traded on insider information illegally.<sup>13</sup> These criticisms either mischaracterize my opinions or fail to understand the relevant discussions in the Stulz Report. They sometimes even contradict Plaintiffs’ earlier assertions in this matter.

9. In this section, I start with a discussion of why Mr. Coffman and Plaintiffs contradict themselves and make a powerful case that it is implausible to conclude that knowledge of the alleged fraud would have been contained. Indeed, information sufficient to unravel the alleged fraud would diffuse to individuals and institutions involved in structured finance not only through the alleged fraudulent scheme, but also through the normal course of their business. In the second sub-section, I show that prior to and during the putative Class Period, some people believed Moody’s had succumbed to conflicts of interest, and discuss how that belief could reach far beyond the wide range of market participants in structured finance. Finally, I address some remaining misguided criticisms in the Coffman Report.
10. The discussion in this section will reiterate two key implications of knowledge diffusion: (1) that many putative class members would not have relied on the alleged misstatements or omissions, and (2) that, if Plaintiffs are correct and the market for Moody’s stock was efficient, diffused information of the alleged fraud implies the valuation impact of the alleged fraud (if any) could have already been fully priced into Moody’s stock during the putative Class Period.

### **III.A. PLAINTIFFS MAKE A COMPELLING CASE FOR DIFFUSION OF KNOWLEDGE ABOUT THE ALLEGED FRAUD**

11. Plaintiffs and Mr. Coffman claim that the market for Moody’s stock was efficient. At the same time, they claim that Moody’s sacrificed its independence to foster the short-term growth of its structured finance rating business, allegedly taking steps to cultivate clients by systematically awarding ratings too generously. After presenting these views, Plaintiffs turn around and claim that knowledge of the alleged fraud could not have been

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<sup>13</sup> Coffman Report, ¶¶ 58-59, 71-75, 81-82.

diffused to a large number of financial market participants, and thus could not have already been incorporated in Moody's stock price. These opinions are irreconcilable.

12. If Moody's was too generous in its rating procedures to please clients, it cannot be the case that these very clients did not know that Moody's was trying to please them. The scheme Plaintiffs are alleging here is based on the notion that Moody's debased ratings and compromised its independence in pursuit of greater market share and short-term profits. For this to be an economically coherent theory, repeat clients would have to give Moody's more rating business, thereby increasing its revenue and profits. This step – clients choosing to give Moody's more business – hinges on the clients themselves knowing they were being treated favorably. As stated in the Memorandum for Class Certification, "Moody's credit ratings were not solely influenced by factors relevant to the credit assessment, but were also affected by the existence of, or potential for, **lucrative business relationships** between Moody's and the entities that paid Moody's to provide credit ratings."<sup>14</sup>
13. Indeed, Plaintiffs make many allegations that the clients being accommodated clearly knew they were being accommodated:
  - 1) Analysts at Moody's were removed because clients complained.<sup>15</sup>
  - 2) Ratings were changed following complaints by clients.<sup>16</sup>
  - 3) Moody's "did give assurances of particular credit ratings to Issuers."<sup>17</sup>
  - 4) Moody's did not collect information it claimed to use or should have used according to Plaintiffs.<sup>18</sup> To the extent that Moody's would have had to ask issuers for that information, issuers would know Moody's was not using it.
14. Mr. Coffman himself agrees that the foundation of Plaintiffs' claims is that Moody's was not "independent" from "**issuers of securities and investment banks**."<sup>19</sup> Therefore, it necessarily follows from this specifically-alleged scheme that the alleged fraud was

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<sup>14</sup> Memorandum for Class Certification, p. 7, emphasis added.

<sup>15</sup> "As Housing Boomed, Moody's Opened Up," *The Wall Street Journal*, April 11, 2008, cited in Complaint, ¶ 347.

<sup>16</sup> *Ibid.*

<sup>17</sup> Complaint, ¶ 69.

<sup>18</sup> Complaint, ¶ 131.

<sup>19</sup> Coffman Report, ¶ 20, emphasis added.

## EXHIBIT 2

known beyond Moody's (at the very least, by issuers and investment banks whose deals were allegedly rated more favorably by Moody's).

15. Exhibit 3 in my original report showed that many issuers and investment banks were also shareholders of Moody's, and thus potential class members. Since they would necessarily have known of the alleged fraud (as agents in the alleged scheme), these institutions could not have relied on the alleged misrepresentations or omissions. In addition, to the extent that these institutions believed that Moody's could successfully increase its profitability in the foreseeable future due to the alleged misconduct, it is possible that they might have purchased Moody's stock during the putative Class Period specifically based on their knowledge of the alleged fraud.<sup>20</sup> Mr. Coffman attempts to get around this problem by suggesting that such class members could be "excluded."<sup>21</sup> However, even if Plaintiffs or Mr. Coffman put forward a class definition that excludes all the issuers and banks (and thus far they have not), such definition would not be able to capture all the potential class members who possessed the knowledge of the alleged fraud, especially given likely information diffusion through recognized channels noted in the Stulz Report.<sup>22</sup>
16. In addition, issuers and investment banks have thousands of employees and high turnover. As I noted in my report, employees routinely leave rating agencies to work at banks, hedge funds and other "buy-side" investment outfits.<sup>23</sup> Similarly, a 2009 World Bank paper noted that, due to the "high turnover" at Credit Rating Agencies, "[i]nvestment banks commonly hired structured finance analysts (there is as yet no mandatory 'cooling off' period for such moves), which arguably facilitated exploitation of loopholes in rating methodologies."<sup>24</sup> Given staff turnover, knowledge of the alleged

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<sup>20</sup> Mr. Coffman agrees that it is possible some investors could have traded Moody's stock based on their belief that Moody's short term profitability would increase due to its alleged succumbing to conflicts of interest (See Coffman Deposition, 237:10-238:12).

<sup>21</sup> Coffman Report, ¶ 79.

<sup>22</sup> I cited well-regarded academic literature documenting recognized channels through which knowledge diffuses in Paragraph 54 and footnotes 76 and 77 of the Stulz Report. Mr. Coffman has not directly challenged the findings or implications of that peer-reviewed research (nor would he have any basis to challenge it), and instead skirts the issue by arguing there is no clear evidence that all investors knew of the alleged fraud. However, as I will explain further herein, my opinions do not rely on the information being known to all investors.

<sup>23</sup> Stulz Report, ¶ 53.

<sup>24</sup> "Credit Rating Agencies: No Easy Regulatory Solutions," Crisis Response Note Number 8, The World Bank Group, October 2009, pp. 4, 7. This phenomenon was also noted in press articles. For example: "[I]t is accepted at all the rating agencies that there will be a degree of turnover in their staff - whether the analysts leave for investment banks, or asset management firms and insurance companies. ... [The rating agencies] recruit heavily at the graduate level for their training programmes, but the experience and expertise that they give their trainees means that their mid-level analysts regularly get picked off by the banks."



misstatements or omissions would have traveled with knowledgeable former employees. Additionally, financial analysts and investors who attended industry conferences that former rating agency employees attended could also have picked up valuable information.<sup>25</sup> Note finally that employees of mortgage originators and servicers had first-hand evidence on the quality of the mortgages included in securitizations being rated by Moody's. Thus, each class member needs to be asked whether they previously worked on some part of the mortgage securitization chain, structured finance issuance, or at Moody's, and in the case of the myriad buy-side outfits who are potential class members, whether they *employed* any former bank or Moody's employees, and whether they *exchanged relevant information* with these former employees.

17. In criticizing this whole line of reasoning, the Reply Memorandum (p. 15) suggests that "evidence for this proposition [about actual knowledge of the alleged fraud] is both nonexistent and impossible to demonstrate, as Defendants' own expert admits." This completely misses the point of my statement. The information is only impossible to demonstrate without questioning class members individually. What's more, as noted above, the "proposition" that actual knowledge about the alleged fraud was spread among many firms and individuals was not pulled out of thin air, it is a necessary, logical feature of Plaintiffs' compromised independence theory.
18. The Complaint makes the case for diffusion of knowledge in another way. In a stark contrast to Mr. Coffman's assertion that it requires "tremendous resources to duplicate Moody's endeavors in an effort to ferret out ratings inflation,"<sup>26</sup> Plaintiffs state in the Complaint that "Moody's was failing to consider conventional information that was **easily available** and likewise known to be relevant and crucial to credit risk evaluation."<sup>27</sup> Further, they argue that "Moody's evaluations were so **flagrantly wrong** *ante* (*sic*) that they can be explained only by Moody's conflicts and revenue ambitions."<sup>28</sup> Elsewhere in the Complaint, we learn that "all information necessary (*sic*) Moody's to

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("How to Play the Job Rating Game," *Financial Times*, March 26, 2007.) "Wall Street was given access to the formulas behind those magic ratings -- and hired away some of the very people who had devised them." ("Rating Agency Data Aided Wall Street in Deals," *The New York Times*, April 23, 2010.)

<sup>25</sup> In Stulz Report ¶ 27, I discuss how securitization industry conferences were attended by credit rating agencies, academics, asset managers, investment bankers, and other industry professionals.

<sup>26</sup> Coffman Report, ¶ 71.

<sup>27</sup> Complaint, ¶ 108, emphasis added.

<sup>28</sup> Complaint, ¶ 109, emphasis added.

have rated such securities accurately at issuance was in plain view, or readily available to Moody's without due diligence."<sup>29</sup> If the Complaint's statements were correct, it makes no sense for Mr. Coffman to argue that sophisticated investors would not have used "readily available" information and realized that Moody's ratings were systematically biased or "flagrantly" wrong. According to Plaintiffs, there was no insurmountable obstacle to do so: the crucial information that Moody's allegedly ignored was "in plain view."

19. As an example, I mentioned in the Stulz Report and my deposition that CPDOs were complicated securities to evaluate. Mistakes in the rating of such securities would have been non-trivial to detect. Yet, according to a SEC report, it turns out the mistake in the CPDO model at the heart of the May 21, 2008 *Financial Times* article was discovered because an investment bank had its own model and it yielded different results from Moody's:

In January 2007, an MIS [Moody's Investors Services] analyst in New York, assisting on a CPDO deal with a United States investment bank, was asked to determine why the MIS CPDO model was not generating the same output as the investment bank's model. Upon examination, the analyst discovered a coding error in the MIS model.<sup>30</sup>

20. This is but one clear example of well-informed market participants monitoring Moody's ratings. As noted in the Stulz Report, these sophisticated market participants had their own models that they could use to replicate the bulk of Moody's analysis for very complicated securities. This point is confirmed in a 2003 Letter from the SEC Chairman, a document which Mr. Coffman cites in his report:<sup>31</sup>

As discussed in the Commission's Report, the predominant users of securities ratings, such as broker-dealers, banks, mutual funds, pension funds, and insurance companies, conduct their own independent credit analysis, where NRSRO credit ratings are only one of several important inputs to their internal credit assessments and investment analyses.<sup>32</sup>

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<sup>29</sup> Complaint, ¶ 248.

<sup>30</sup> "Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: Moody's Investors Service, Inc.," SEC Release No. 62802, August 31, 2010. Mr. Coffman could not remember having read this SEC Report (Coffman Deposition, 154:13-23).

Also, note that institutional investors' skepticism of CPDO ratings dates back to at least 2006. See, for example, <http://www.pimco.com/Pages/IO%20December%202006.aspx>.

<sup>31</sup> Coffman Report, Footnote 65.

<sup>32</sup> Letter from SEC Chairman William H. Donaldson to the Honorable Richard H. Baker, Chairman, Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises, U.S. House of Representatives, dated June 4, 2003, p. 4.

This directly contradicts the discussion in ¶ 70-77 of the Coffman Report suggesting such replication was implausible, or even impossible. Similarly, during a June 29, 2005, Congressional Hearing (from which Mr. Coffman also cites certain excerpts),<sup>33</sup> Frank Partnoy warned the panel that investors' knowledge of the rating methodologies was allowing them to "game," or take advantage of the credit rating agencies models to achieve the highest possible rating:

Increasingly, institutions are using structured finance techniques to game ratings, to take advantage of ratings.... It often helps when a rating is wrong, paradoxically. When ratings are wrong, that can create incentives for people to create transactions, and there are now trillions of dollars of credit derivatives in particular, or collateralized debt obligations, which were essentially created just because there are regulations that gives a ratings benefit.<sup>34</sup>

21. In an attempt to criticize my opinion, Mr. Coffman actually provides yet another good counterexample to his own assertions. In his report, he explains that he was retained to audit a particular issuer's valuation models for certain structured securities.<sup>35</sup> Surprisingly, he argues that his experience is evidence *against* diffusion of knowledge. On the contrary, it shows that issuers not only built internal models to assess credit risk and security values, but then also engaged outside consultants to check their models, leading to an additional layer of individuals who had at least some knowledge of the models necessary to assess the accuracy of credit ratings. The fact that it took several weeks for Mr. Coffman and his colleagues to assess the models is irrelevant. For a fixed income investor with millions or billions of dollars at stake, it surely would make sense to spend weeks developing models if such models could potentially give the investor an edge over the market. Mr. Coffman's baseless claim that it is implausible or inefficient for investors to independently investigate ratings and that "[t]here is no evidence to suggest anyone undertook such an effort"<sup>36</sup> is contradicted by evidence from the

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<sup>33</sup> Coffman Report, Footnote 71.

<sup>34</sup> "Legislative Solutions for The Rating Agency Duopoly," Hearing Before the Subcommittee on Capital Markets, Insurance and Government Sponsored Enterprises of the Committee on Financial Services, U.S. House of Representatives, June 29, 2005, pp. 36-37.

<sup>35</sup> Coffman Report, ¶ 73. Mr. Coffman also lists in Coffman Report Appendix B that he "[p]erformed detailed audit of CDO valuation models employed by a banking institution to satisfy regulators."

<sup>36</sup> Coffman Report, ¶ 71. Note that Mr. Coffman conceded during his deposition that he had no specific knowledge on how institutional investors make investment decisions or conduct their independent investment analyses. See, Coffman Deposition, 181:7-183:18.

previously discussed SEC report.<sup>37</sup> In Appendix A, I provide ample additional evidence to show that market participants indeed conduct such analyses during their regular course of business.

22. Mr. Coffman attempts to obfuscate things by saying that, despite the wealth of publicly disclosed information on ratings models, things were not perfectly transparent and all necessary data was not publicly available.<sup>38</sup> Although assessing the credit risk of specific structured finance securities backed by subprime or Alt-A mortgages would require modeling the performance of the loans and deal-level cash flow modeling, issuing institutions, underwriting banks, credit analysts, bond insurers, auditors, fixed income investors and traders, and even some researchers would have access to loan level data and sophisticated models. In fact, issuing banks most likely would have already modeled the default risk and expected losses as part of structuring the deal.<sup>39</sup> Further, the originators of the mortgages underlying RMBS securitizations would have loan-level information for every single mortgage in the RMBS trust. Additionally, commercially available databases such as *LoanPerformance* offered necessary loan-level data to a wider audience during the putative Class Period.<sup>40</sup> Commercially available databases such as *Intex* made it possible for investors to model deal-level cash flows.<sup>41</sup> Credit analysts further suggest “prodigious amounts” of such data and information has been publicly available through various channels.<sup>42</sup> It would not have required much investigation for Mr. Coffman to

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<sup>37</sup> “Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: Moody’s Investors Service, Inc.,” SEC Release No. 62802, August 31, 2010.

<sup>38</sup> Coffman Report, ¶¶ 71-77. Mr. Coffman (¶ 74) raises the notion that because of non-quantitative aspects inherent in the rating process (a committee decides on the final rating) one can never fully re-create a rating. However, sophisticated market participants could determine when actual observed ratings deviated significantly from what they *presumed* Moody’s model output to be and investigate such cases more fully.

<sup>39</sup> An introduction to how issuers structure deals was given in Stulz Report ¶¶ 21-22. Also see, for example: “At Goldman, there was even a phrase for the way bankers put together mortgage securities. The practice was known as ‘ratings arbitrage,’ according to former workers. ... The rating agencies may have facilitated the banks’ actions by publishing their rating models on their corporate Web sites.” (“Prosecutors Ask If 8 Banks Duped Rating Agencies,” *The New York Times*, May 12, 2010.) Concerns about ratings arbitrage were an issue for investors even before the putative Class Period, as shown in Appendix A.

<sup>40</sup> *LoanPerformance* claims that “Mortgage originators, servicers, securities issuers and investors rely on this critical performance information to monitor and analyze credit risk and make securities valuation and pricing decisions” since well before the putative Class Period (“LoanPerformance Mortgage Securities Database Surpasses \$1 Trillion Milestone,” *LoanPerformance Press Release*, July 26, 2005). Such data has also been used by Moody’s (“Residential MBS: Economics Drive Both Volume Surge and Favorable Pool Characteristics,” *Moody’s Investors Service*, November 22, 2002, p. 6).

<sup>41</sup> [www.intex.com/main/solutions\\_cashflow.php](http://www.intex.com/main/solutions_cashflow.php).

<sup>42</sup> See, for example: “This process is likely to be aided considerably by the intrinsic transparency of the public RMBS market, where prodigious amounts of loan-level data related to servicer performance are available, in most instances, over several years or even decades.” (“RMBS Residuals: A Primer,” *Bear Stearns*, September 2006, pp. 5-6); Also, see: “Investors can get information and an orientation to rating agency modeling approaches through: • Data published by rating agencies; • Discussions with specific rating agency analysts; • Research published by underwriters of CDO deals; • Investment bankers who structure

discover that *RiskModel*<sup>TM</sup> by *LoanPerformance* made it possible for subscribers to obtain all the statistics required to evaluate expected losses on mortgage pools, and that one of the advertised benefits of the model was “Decreasing coverage on securitization in negotiations with rating agencies.”<sup>43</sup> *LoanPerformance* also sold this type of analysis as one of its products.

23. The key here is that credit ratings are *public* opinions expressed by the rating agencies. Market participants often possess richer information about (the credit risk of) the rated securities than Moody’s. Were there systematic and “flagrant” overrating for certain repeat structured finance issuers, as is alleged, then market participants, including issuers and underwriting banks, mortgage originators, institutional investors, credit analysts, traders, consultants, risk managers, and finance researchers (see concrete examples of such producers of knowledge in Appendix A) could have detected it, and some would have shared their findings. Those potential class members who obtained such relevant knowledge before they purchased Moody’s stock could not have relied on the alleged misstatements or omissions for their investment decisions.
24. Another key implication of knowledge diffusion is that, in a purported efficient market, the valuation impact of this knowledge (if any) would be priced into Moody’s stock through investors trading on their knowledge. Consequently, any valuation implication for Moody’s stock resulting from the alleged systemic overrating discovered by investors would have been incorporated into the stock price. By implying that not every investor could (or would) replicate Moody’s ratings models, Mr. Coffman seems confused about the implications of knowledge diffusion. In an efficient market, information is not required to be costlessly available to every single investor for it to be fully reflected in the stock price.<sup>44</sup> Literature has shown “information that is less widely known but

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CDO deals. Bankers can provide information concerning the modeling framework used by a particular agency, as well as specific deal information...; • Use of market tools such as Intex ...” (“CDO Primer,” *The Bond Market Association*, 2004, pp. 27-28).

<sup>43</sup> <http://www.facorelogic.com/products/risk-model.jsp>, <http://www.facorelogic.com/uploadedFiles/Literature/RiskModel.pdf>. *RiskModel* has been commercially available prior to and throughout the putative Class Period. See, for example, <http://www.loanperformance.com/pressreleases/default.aspx>.

<sup>44</sup> For example, “What makes the ECMH [efficient capital markets hypothesis] non-trivial, of course, is its prediction that, even though information is *not* immediately and costlessly available to all participants, the market will act *as if* it were.” (Ronald Gilson and Reinier Kraakman, “The Mechanisms of Market Efficiency,” *Virginia Law Review*, v70(4), p. 552). The same article also states that “any information that is accessible to significant portions of the analyst community is properly called ‘public,’ even though it manifestly is not.” (p. 572). Further, “the market may be efficient if ‘sufficient numbers’ of investors have ready access to available information.” (Eugene Fama, “Efficient Capital Markets: A Review of Theory and Empirical Work,” *The Journal of Finance*, 1970, Vol 25(2), p. 388). “[E]ven if the number of traders following a stock is small relative to the number of outstanding shareholders, the stock can be expected to be efficiently priced as long as a number of interested traders use the

nonetheless public, is incorporated into share prices almost as rapidly as information know to everyone through the trading of savvy professionals.”<sup>45</sup> There is a well-developed field of research in financial economics investigating trading behaviors and price formation.<sup>46</sup> Mr. Coffman’s deposition testimony does not show familiarity with this research.<sup>47</sup>

25. In a further misguided attempt to criticize my discussion linking knowledge diffusion and market efficiency, Mr. Coffman suggests that trading on any such knowledge would have necessarily involved criminal activity.<sup>48</sup> I am not an attorney, however it seems that all that is required here is that some firms or individuals who became aware of the allegedly undeserved ratings traded on such information. An individual or a firm could have *surmised* the alleged fraud from independent analysis of ratings (rather than direct, nonpublic knowledge of the alleged fraud) given the wealth of accessible facts and information. These individuals or institutions could freely express their views on how Moody’s conducted its business to others or trade Moody’s stock based on such views.
26. Critically, underlying this whole argument is a somewhat unique situation in this matter given Plaintiffs’ claims and the numerous actors and firms that would necessarily be involved in the alleged systematic fraud (as well as the high degree of disclosure about Moody’s methodologies). For the sake of argument, contrast this case with a hypothetical scenario in which a CFO knew a company’s financial results would be restated due to some internal fraud. In that example, suggesting the CFO widely (and illegally) leaked

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publicly available information.” (Stephen Ross, Randolph Westerfield, and Jeffrey Jaffe, “Corporate Finance,” McGraw-Hill, Sixth Edition, pp. 348-349).

<sup>45</sup> Ronald Gilson and Reinier Kraakman, “The Mechanisms of Market Efficiency Twenty Years Later: The Hindsight Bias,” Harvard John M. Olin Discussion Paper Series, No. 446, November 2003, p. 10. The paper also notes that the authors do not believe “market efficiency generally depends on the views of the average investor” and there are mechanisms by which “the views of informed traders enter price, even when these knowledgeable investors are a minority in the market” (footnote 21).

<sup>46</sup> Empirical evidence from market microstructure research suggests that informational efficiency can be achieved in real time and does not require information to be disseminated to every investor. For example, Greene and Watts find that price response to earnings announcement is realized over the first few post-announcement trades (Jason T. Greene and Susan G. Watts, “Price Discovery on the NYSE and the NASDAQ: The Case of Overnight and Daytime News Releases,” *Financial Management*, v25(1), 1996, pp. 19-42). Busse and Green find that analyst report information from CNBC is fully incorporated into a firm’s stock price within minutes (Jeffrey A. Busse and T. Clifton Green, “Market Efficiency in Real Time,” *Journal of Financial Economics*, 2002, v65, 2002, pp. 415-437). Kim et al. further find that competition among informed traders causes analyst recommendations pre-released only to select clients to be reflected in a firm’s stock price within minutes (Sok Tae Kim, Ji-Chai Lin, and Myron B. Slovin, “Market Structure, Informed Trading, and Analysts’ Recommendations,” *The Journal of Financial and Quantitative Analysis*, 1997, v32(4), pp. 507-524).

<sup>47</sup> Coffman Deposition, 97:16-98:20.

<sup>48</sup> Coffman Report, ¶ 81.

the restatement information is indeed speculative. However, this is not such a situation, as I noted in my deposition:

Now, if you think of a situation where information about the fraud is confined to the executive suite of a company, then it would be pretty straightforward to figure out who had that information and who did not. There are other cases where the information can be widespread or can be very diffused across investors, where it's not going to be possible to define boundaries of who knows and who doesn't know without asking investors about what they knew and when. My discussion of knowledge in my report implies that we are in this situation with this litigation.<sup>49</sup>

### III.B. POTENTIAL BELIEF THAT MOODY'S SUCCUMBED TO ALLEGED CONFLICTS OF INTEREST

27. The Stulz Report showed that characteristics of the structured finance rating business and inherent conflicts of interest related to the issuer-pay model were in plain view to the public before and during the putative Class Period, a fact which is also acknowledged by Mr. Coffman.<sup>50</sup> As the International Organization of Securities Commissions stated in a report that preceded the putative Class Period, "Perhaps the single greatest concern facing CRAs [credit rating agencies] is identifying and addressing **potential and actual conflicts of interest** that may inappropriately influence the rating process."<sup>51</sup> The Stulz Report also discussed the heated debate among market participants on these conflicts mainly to document the fact that there was an ongoing, public conversation with divergent views.
28. However, the Coffman Report repeatedly misrepresents the conclusions I drew from materials presented in the Stulz Report and often mischaracterizes my statements (or simply fails to understand them).<sup>52</sup> For example, I never stated that the public discussion about potential conflicts of interest presented in my report was evidence the market

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<sup>49</sup> Stulz Deposition, 133:20 -134:11.

<sup>50</sup> "Q. It's true the potential conflict of interest was well known and discussed in Congress by analysts and in the general news media throughout the class period; correct? A. Yes, that's correct" (Coffman Deposition, 173:14-18). Note also, Plaintiffs devoted an entire section of the Complaint to this theory. See Section III, titled: "Unique Characteristics of the Structured Finance Market Intensified Conflict of Interest Pressures and Undermined Moody's Independence," which presents Plaintiffs' detailed argument for why *inherent* facets of the structured finance market (facets present in the market since well before the Class Period) worked to enhance conflicts. See also Complaint, ¶¶ 41-46.

<sup>51</sup> "Report on the Activities of Credit Rating Agencies," The Technical Committee of the International Organization of Securities Commissions, September 2003, p. 12: <http://www.iosco.org/library/pubdocs/pdf/IOSCOPD153.pdf>, emphasis added.

<sup>52</sup> See Coffman Report, ¶¶ 8, 51-69.

believed Moody's had in fact succumbed to alleged conflicts, as Mr. Coffman suggests. What's more, I never suggested – let alone stated – that “everybody knew that the ratings were tainted,” as claimed by Plaintiffs’ Reply Memorandum (p. 13).<sup>53</sup> Rather, one reason for introducing the volume of public discussion on these issues was to show that there was a lively debate containing strikingly different views. Clearly, for such a debate to have occurred, some people must have believed Moody's had a high risk of succumbing to conflicts of interest (or had already succumbed to the conflicts). I also introduced the extensive public discussion to show that none of Plaintiffs’ alleged incremental misrepresentations or omissions (e.g. the Code of Conduct) changed investors’ opinions of ratings or led investors to believe that conflicts of interest had been eliminated, points with which Mr. Coffman agrees (see Coffman Report, ¶ 85).

29. In short, Mr. Coffman criticized my introduction of materials discussing potential conflicts based on the incorrect assumption that their purpose was to show the market as a whole believed that Moody's had already succumbed to the alleged conflicts, but he does not dispute that the materials themselves clearly show relevant issues were widely disclosed and debated, which was the actual purpose of citing these materials.
30. Nonetheless, although I agree with Mr. Coffman and Plaintiffs that some market participants, after analyzing various relevant factors, concluded that Moody's was managing conflicts of interest effectively prior to (or during) the putative Class Period, the debate flagged in the Stulz Report shows that was far from a universal view. As results from a Bond Market Association survey published on February 23, 2006 (and listed as “potentially material news” by Mr. Coffman) show, many market participants believed otherwise.<sup>54</sup> The Stulz Report discussed several examples of individuals who held this view: Congressman Michael Fitzpatrick remarked in 2006 that “[t]he lack of competition in the credit rating industry has...allowed abusive industry practices and conflicts of interest to go unchecked;” industry consultant Ms. Janet Tavakoli criticized rating agencies in 2005 for “enjoying a cozy relationship with structured finance issuers;” and Mr. Frank Partnoy commented in 2005 that for structured instruments, “the agencies

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<sup>53</sup> See Stulz Report, ¶¶ 38–50 for what I did say.

<sup>54</sup> According to the February 23, 2006 article, a Bond Market Association study found that “45 percent of borrowers were not comfortable that agencies were effectively managing potential conflicts of interest.” “UPDATE 1-Survey Shows Concern Over Rating Agency Competition,” *Reuters News*, February 23, 2006, at COFFMAN 03388-9.



have become more like ‘gateopeners’ than gatekeepers.”<sup>55</sup> In addition, Mr. Sean Egan, the head of a credit analysis and ratings firm, stated during his Senate testimony in 2005: “the conflicts cannot be managed. They simply cannot be managed.”<sup>56</sup>

31. These opinions and commentary were published in media, public press, as well as business publications. An investor who was aware of these opinions could have decided to reach a conclusion similar to that of the survey respondents, Congressman Fitzpatrick, Ms. Tavakoli, Mr. Partnoy, or Mr. Egan. Therefore, although not everyone believed ratings were tainted, some people clearly did, and they broadcast that view to others, including individuals who were not necessarily even familiar with structured finance ratings. Mr. Coffman agreed, during his deposition, that “there could be a range of beliefs that people could hold” during the Class Period regarding whether Moody’s had succumbed to the conflicts of interest as alleged by Plaintiffs.<sup>57</sup> Thus, this suggests each potential class member needs to be questioned individually to determine whether (and if so, when) they believed Moody’s business was plagued by unchecked conflicts of interest, and whether they relied on Moody’s alleged misstatements or omissions about its business practices for their investment decisions.

### III.C. ADDITIONAL CRITICISMS RAISED BY MR. COFFMAN

32. It is also worth noting that Mr. Coffman attempts to dismiss the materials I introduced about knowledge of the limitations of credit ratings generally, and in structured finance specifically, as “irrelevant and at odds with easily observable economic facts which support their, at least perceived, value.”<sup>58</sup> Mr. Coffman is again misstating my opinion when he suggests that I believe ratings have *no* value. The existing empirical evidence shows that some investors rely on ratings and others do not. Ratings are part of the information set of most investors, but some investors use ratings only to trade against them. It follows that the importance of agency ratings varies across investors. The discussion in the Stulz Report (¶¶ 15-50) was meant to point out why the claims in the Complaint are economically incoherent and dispel any notion that the events of 2007 and

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<sup>55</sup> See Stulz Report, ¶¶ 40, 46, 47.

<sup>56</sup> “Examining the Role of Credit Rating Agencies in Capital Markets,” Hearing before the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, February 8, 2005.

<sup>57</sup> Coffman Deposition, 224:17-227:4.

<sup>58</sup> Coffman Report, ¶¶ 52–54.

2008 (e.g. clustered rating downgrades) were in any way unique or on the surface consistent with Plaintiffs' allegations, as the Complaint's lengthy passages dedicated to these topics seem to suggest they were.<sup>59</sup>

#### **IV. MATERIALITY AND LOSS CAUSATION**

33. In my first report, I conducted an event study for the dates on which Plaintiffs alleged that Moody's made misrepresentations (Stulz Report, ¶¶ 57-63, Exhibit 6).<sup>60</sup> My event study found that no day on which Moody's allegedly made a misrepresentation was associated with a statistically significant and positive abnormal return.<sup>61</sup> It follows from this result that, if the market for Moody's stock was efficient at the time, no alleged misrepresentation provided new or material information to the market. In an efficient market, old news has no stock price impact.<sup>62</sup>
34. Mr. Coffman and Plaintiffs seem surprised that I conducted such an analysis. In their currently articulated view, it appears they are suggesting the alleged misrepresentations conveyed no new information to the market, and Moody's allegedly only made omissions rather than misstatements.<sup>63</sup> In fact, Mr. Coffman does not consider most of Plaintiffs' alleged misstatements to be even "potentially material," according to his report's Exhibit 1.<sup>64</sup> If this is their theory, then to demonstrate materiality they need to conduct an event study to show that when the market learned about the alleged omissions, it reacted

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<sup>59</sup> See, for example, Complaint ¶¶ 51, 248 – 280.

<sup>60</sup> This exhibit referenced days mentioned in the Complaint, Memorandum for Class Certification, and Opinion and Order filed February 23, 2009.

<sup>61</sup> This was noted in ¶ 63 of the Stulz Report. In the language of event studies, a statistically significant abnormal return on an event day is required to conclude that a statement made that day had an impact on the stock price. In the presence of a significant abnormal return, however, it may not always be possible to conclude that the specific disclosure at issue impacted the stock price because there may be other contemporaneous statements or confounding events. If there are multiple disclosures that impact the stock price at the same time in the same direction, the event study method per se does not make it possible to attribute the observed abnormal return to a single disclosure.

None of the abnormal stock returns on these alleged misstatement dates is positive in a statistically significant manner according to Coffman Report, Exhibit 1, except for March 1, 2007. The alleged misstatement is Moody's statement regarding its independence in its 10-K. The 10-K is listed in Coffman Report Exhibit 1 with two other pieces of information. Given Mr. Coffman's position that none of the alleged misstatements contains any new information (Coffman Report ¶ 85), it is unclear why he includes the 10-K in his Exhibit 1, nor has he shown that the stock price movement was in reaction to the alleged misstatement in the 10-K rather than other information contained in the 10-K or other contemporaneous news.

<sup>62</sup> "The usefulness of such a study comes from the fact that, given rationality in the marketplace, the effects of an event will be reflected immediately in security prices." (See Craig. A. MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature*, v35(1), March 1997, p. 13).

<sup>63</sup> Mr. Coffman criticizes me for not differentiating "between a misstatement or omission that a reasonable person would expect would move a stock higher and one that would not" (Coffman Report, ¶ 85).

<sup>64</sup> The only exception is Moody's 2006 10-K released on March 1, 2007, which Mr. Coffman includes in his Exhibit 1 without identifying specifically what information contained in the 10-K is "potentially material."

adversely. I will explain below that neither Plaintiffs nor Mr. Coffman has provided such evidence.

35. A proper event study requires an economist to first identify the events of interest, or the disclosures that revealed the alleged specific omissions, and then determine after controlling for market and industry effects, whether any stock price changes in response to the disclosed information (rather than other information unrelated to the allegations) rise to the threshold of statistical significance.<sup>65</sup> Mr. Coffman essentially agrees with this proposition, given the discussion in ¶¶ 83-89 of his report. However, using this standard, Mr. Coffman has failed at the first step, as he does not even attempt to identify disclosures *related to the specifically-alleged fraud in this matter*.<sup>66</sup> In other words, merely conducting a mechanical statistical analysis and showing examples of statistically significant abnormal stock price drops on certain given days misses a crucial step to demonstrate materiality as an economist, and the abnormal stock price movements resulting from such a mechanical analysis could be caused by a variety of firm-specific factors that are economically unrelated to the alleged misstatements or omissions.
36. The Coffman Report, using a statistical analysis similar to my own in many respects, essentially agrees with my conclusion that there are only two alleged disclosure days on which the market reacted adversely -- August 20, 2007 and May 21, 2008 -- and the Coffman Report does not dispute my opinion that the market did not react on the other alleged disclosure days.<sup>67</sup> I disagree with the Coffman Report, however, about whether the price reactions on those two days could be used to demonstrate the materiality of the alleged misstatements/omissions. Interestingly, Mr. Coffman even admitted during his deposition that for a given alleged corrective disclosure he has formed no opinion as to

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<sup>65</sup> Craig A. MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature*, v35(1), March 1997.

<sup>66</sup> Mr. Coffman seems to be willing to take *any* alleged corrective disclosure that "meet[s] whatever alternative threshold [is] necessary to support a legal finding of loss causation" as given, regardless of whether the stock price movement on the alleged corrective disclosure day is even economically linked to, or would not have happened but for the allegedly omitted information (See Coffman Report, footnote 3). Mr. Coffman failed to point out to any date other than sometime in October 2008 that he feels "fairly confident" would constitute a corrective disclosure date during his deposition (Coffman Deposition, 242:21 – 248:17). He suggests that "the declines in price during the Congressional testimony in October 2008 I'm fairly confident would be – I would be able to conclude they are corrective disclosures" (Coffman Deposition, 247:7 – 247:10). As noted in Stulz Report Exhibit 6, Moody's abnormal stock return on the day of the Congressional hearing (October 22, 2008) was not statistically significant. Neither was the abnormal return statistically significant based on my replication of Mr. Coffman's event study (see Coffman Report, ¶¶ 41-45 for a description of his methodology).

<sup>67</sup> The Coffman Report suggests (¶ 97) that October 17, 2007, is also a statistically significant day due to a Moody's lower-than-expected earnings announcement; however, according to his own Exhibit 1, there was no "potentially material" news on that day, and the stock price reaction is not significant. That day is not significant in my event study either.

whether “the particular information released that day is sufficiently linked to the fraud that’s being alleged.”<sup>68</sup> Given this statement, he cannot offer any reliable opinion about economic materiality.

37. With respect to loss causation generally, Mr. Coffman states, without any basis, that “Plaintiffs have articulated an economically logical and coherent *theory* of loss causation and have identified potential dates with statistically significant price declines that are at least arguably causally related to the alleged misstatements and omissions.”<sup>69</sup> I respectfully disagree. Mr. Coffman’s argument on the foreseeable economic consequences of the alleged fraud has a fatal logical flaw. While “the foreseeable consequences to Moody’s” *could* include “1) regulatory, legislative and or law enforcement scrutiny; 2) disclosure model errors; 3) an anomalous number of ratings downgrades; and 4) loss of business and deterioration of financial results,” all of these events could also occur (and most often do occur) in the absence of any alleged wrongdoing simply through the normal course of business, and hence would fail the “but for” test suggested by Mr. Coffman.<sup>70</sup> Mr. Coffman contradicts himself when he states that rating downgrades could happen “for a variety of reasons,” and hence would be irrelevant for testing materiality, but regulatory action and model errors, both of which also happen for many reasons, would somehow be more “revealing.”<sup>71</sup>
38. In the remainder of this section, I proceed in two steps. First, I clarify what certain evidence presented in the Stulz Report says about economic materiality of the alleged fraud given allegations presented in the Complaint and in the Memorandum for Class

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<sup>68</sup> Coffman Deposition, 251:2-5, 253:17-254:3.

<sup>69</sup> Coffman Report, ¶ 94. On a related topic, Mr. Coffman states that my argument that different class members have different incentives for pursuing claims based on different holding periods “could be lodged against any putative class where there are multiple or partial corrective disclosures” (Coffman Report, ¶ 102). Note that there is one key wrinkle in this matter that makes it different from typical Rule 10b-5 classes. My understanding is that typical cases have multiple disclosures *within* the Class Period, with a final disclosure immediately (or relatively soon) after the Class Period. In such cases, when a class member sells her shares between disclosure dates, another (potentially new) class member must have necessarily stepped in and purchased the shares from them. Thus, in aggregate, roughly the same number of shares have damage claims with respect to each individual disclosure. I was merely pointing out that, in this case, relatively few class members will actually be able to show economic loss pursuant to the alleged May 21, 2008 disclosure or October 22, 2008 disclosure, as they happened seven and twelve months after the purported Class Period, respectively, and it is likely many class members sold their shares to other investors in the interim.

<sup>70</sup> Coffman Report, ¶ 96. Given the fact that Plaintiffs note reputation, objectivity, and independence were key aspects of Moody’s business model (see, for example, Memorandum for Class Certification, p. 4), one seemingly obvious, foreseeable consequence of the alleged fraud would be an across the board, permanent impairment to Moody’s revenues and business prospects upon the revelation that Moody’s was neither objective nor independent. The Stulz Report addressed this in ¶¶ 97–98, showing that Moody’s segment revenue was not impacted across-the-board following alleged disclosures (revenue from some segments even grew) and that securities analysts viewed the lost business as largely cyclical. Mr. Coffman has basically ignored these points.

<sup>71</sup> Coffman Report, ¶¶ 86–90.

Certification, addressing Mr. Coffman's criticisms and the shortcomings of his analysis along the way. Second, I review what the two significant days can tell us about the economic materiality of the allegations, addressing the limited analysis of these days presented in the Coffman Report.

#### IV.A. HOW THE MARKET LEARNED ABOUT THE ALLEGED FRAUD ACCORDING TO THE COMPLAINT AND THE MEMORANDUM FOR CLASS CERTIFICATION

39. According to the Complaint, the alleged lack of independence led to overrating of subprime-related structured finance securities.<sup>72</sup> This allegation of overrating is at the core of the Complaint as I read it. In particular, the Complaint states that “[i]t may have been the crisis that actuated the re-ratings, but it was the over-ratings that created the crisis.”<sup>73</sup> Further, the Complaint states that “Moody’s recent subprime structured finance securities ratings, in the aggregate, were grossly inflated. This is powerful indication, if not actual *quod erat facendum*, that Moody’s evaluations at issuance had been systematically corrupted.”<sup>74</sup> The Complaint lists “[a]mong the disclosures that contributed to the market’s revaluation of Moody’s stock,” the date of July 12, 2007, when Moody’s “announced its first very large wave of subprime RMBS downgrades, which gave the market reason to believe that Moody’s prior ratings were materially inflated.”<sup>75</sup>
40. Given these allegations, I conducted an event study that investigated Moody’s abnormal stock return on days when major downgrades were disclosed, but found no significant abnormal returns on these days.<sup>76</sup> In other words, insofar as Plaintiffs attempt to link downgrades to disclosure of the alleged omissions, these results are not consistent with Plaintiffs’ claim that the misstatements or omissions were material for stock investors. Mr. Coffman, on the other hand, seems to hold quite a different view from the Complaint

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<sup>72</sup> Complaint, ¶¶ 230-235. Technically, a rating that does not reflect all existing information could just be noisy and not necessarily inflated or biased. However, in the context of the Complaint, it seems clear that the allegations are that Moody’s ignored information to avoid giving lower ratings.

<sup>73</sup> Complaint, ¶ 248.

<sup>74</sup> Complaint, ¶ 250.

<sup>75</sup> Complaint, ¶ 400. The Complaint had an entire section (II.D.2) on the “unprecedented” wave of downgrades in 2007 and 2008, which seemed to suggest they viewed downgrades as some kind of corrective disclosure. During his deposition, Mr. Coffman also stated that “[i]t’s certainly true the allegations are that they sought a short-run profit opportunity at expense of their reputation by inflating credit ratings” (Coffman Deposition, 236:3-17).

<sup>76</sup> See Stulz Report, ¶ 92.

as he considers downgrades neither “revealing” nor “potentially material.”<sup>77</sup> Given that my review of these downgrades was simply a direct response to Plaintiffs’ claims, it is a mystery to me why Mr. Coffman so vociferously criticizes my analyses related to the downgrades (Coffman Report ¶ 90).

41. The Complaint (¶ 400) lists a number of other disclosures that purportedly informed the market about the alleged fraud. I also investigated these disclosures, considering further refinements noted in the Memorandum for Class Certification and the February 23, 2009 Opinion and Order, and reported my results in Exhibit 6 of the Stulz Report. As noted in the Stulz Report and above, only the alleged curative disclosures on August 20, 2007 and May 21, 2008 have significant negative abnormal returns. I will discuss these two days further in the next subsection. On all other alleged disclosure days, the stock price did not react in a statistically significant way. Mr. Coffman says (and I agree) that, in an efficient market, the stock price does not react to information that is not surprising.<sup>78</sup> Thus, the lack of a significant price reaction to these other alleged disclosures suggests that the information contained in these alleged disclosures was already known and incorporated in the stock price, or was not material.
42. The Complaint also has a section titled “Exposé: Moody’s Unmasked” that discusses a *Wall Street Journal* article published on April 11, 2008.<sup>79</sup> This disclosure is also mentioned in the Opinion and Order.<sup>80</sup> I examined the reaction of Moody’s stock price to the publication of this article and found no significant abnormal return. If Moody’s practices were masked before that article and became “unmasked” upon its publication, the market did not seem to care. Mr. Coffman also mentions *The Wall Street Journal* article on April 11, as well as one on May 23, 2008, as “[e]xamples of conduct allegedly inconsistent with Moody’s statements regarding independence.”<sup>81</sup> However, Mr. Coffman also apparently does not find statistically significant stock price declines on these days; they are not cited in his materiality section, and using his data to replicate his analysis, results confirm they are not statistically significant.

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<sup>77</sup> Coffman Report, ¶ 90. Coffman Deposition, 58:10-63:14.

<sup>78</sup> Coffman Report, ¶ 85.

<sup>79</sup> Complaint, ¶ 344.

<sup>80</sup> Opinion and Order, filed February 23, 2009, pp. 24, 35.

<sup>81</sup> Coffman Report, ¶ 23.

43. In addition to allegations related to conflicts of interest, the Complaint and the Memorandum for Class Certification also allege that Moody's misstated its rating methodologies related to the assessment of loan originators.<sup>82</sup> I examined Moody's stock price reactions on the days when alleged misstatements or omissions were made or allegedly corrected (Stulz Report, Exhibit 6). There is no significant stock price return on any such day. Mr. Coffman briefly reiterates this line of allegations, but fails to specify any corrective disclosure related to such alleged misstatements or omissions, let alone provide any economic evidence in the form of significant abnormal returns to show that these alleged misstatements or omissions were material.<sup>83</sup> None of the alleged misstatements or corrective disclosures related to loan originator assessments is included in his list of "potentially material news" according to Exhibit 1 to the Coffman Report.
44. Finally, Plaintiffs also make a broader argument for materiality and loss causation, suggesting that Moody's alleged misrepresentations and omissions caused the entirety of Moody's stock price drop over the period of the subprime crisis.<sup>84</sup> A summary of this argument is provided in the Memorandum for Class Certification:

As Moody's misconduct and misrepresentations slowly came to light, occasioning severe regulatory scrutiny and sanctions ..., Moody's reputation ... and Moody's structured finance ratings business ... collapsed, directly causing Moody's share price to collapse .... This latter collapse was specific to Moody's, whose share price trajectory followed its own path...<sup>85</sup>

The Complaint is clearer about the collapse of the stock price, stating that:

Moody's share prices during the class period can not be explained as epiphenomena of broader factors operative in the wider stock market or among comparable companies in the same industry.<sup>86</sup>

Mr. Coffman ignores and implicitly dismisses this argument in his report.<sup>87</sup> He even attacks me for having addressed these broad claims, calling it a "distraction."<sup>88</sup> In the context of Plaintiffs' initial claims, though, it should be clear why the Stulz Report

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<sup>82</sup> Complaint, ¶ 114; Memorandum for Class Certification, pp. 6–8.

<sup>83</sup> See Coffman Report, ¶ 25, which discusses the allegation related to rating methodologies. It is unclear from Mr. Coffman's discussion which disclosures corrected the alleged misstatements and omissions related to rating methodologies. Also see Coffman Deposition 159:3-162:2.

<sup>84</sup> Complaint, ¶ 2.

<sup>85</sup> Memorandum for Class Certification, pp. 9–10.

<sup>86</sup> Complaint, ¶ 401.

<sup>87</sup> See, for example, Coffman Report, ¶¶ 12–13, 91, 101.

<sup>88</sup> Coffman Report, ¶¶ 11–13, 91.

examined the causes of the financial crisis and the lack of scientific evidence tying the crisis to Plaintiffs' arguments.<sup>89</sup>

45. Financial economists have well-established scientific methods to assess whether a stock's return over a period of time diverges from the return of other stocks. I used these techniques in my first report and showed that Moody's stock price development over time is not significantly different from the S&P 500 Financials Index. It appears that Mr. Coffman does not argue with my conclusion, and indeed agrees with me that simply citing un-adjusted stock returns (as done in the Complaint) would not be scientific.<sup>90</sup>

#### **IV.B. THE TWO ALLEGED DISCLOSURE DATES WITH STATISTICALLY SIGNIFICANT STOCK RETURNS**

46. My first report provides scientific evidence that, among the many alleged misrepresentation and disclosure days proffered by Plaintiffs, only two days -- August 20, 2007 and May 21, 2008 -- have statistically significant abnormal returns. Mr. Coffman does not provide evidence of other alleged disclosure days with statistically significant negative abnormal returns. In the Stulz Report, I discussed both dates extensively. I will briefly discuss some additional issues relating to these days here in light of arguments advanced in the Coffman Report.
47. The Stulz Report (¶ 104-108) outlines why, in my opinion, Plaintiffs have not linked the price decline on August 20, 2007 to their specific allegations. The Stulz Report points out that it was not new news that Moody's was facing Congressional scrutiny and pointed criticism from legislators (e.g. Congressman Frank and Senator Dodd). Mr. Coffman states that the comments by Republican Senator Richard Shelby "may have suggested to the market that future legislation calling for strong regulatory scrutiny of the rating agencies would have broad bipartisan support."<sup>91</sup> However, it remains unclear how regulatory scrutiny, in and of itself, is economically linked to the alleged fraud in this matter.

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<sup>89</sup> In contrast to Mr. Coffman's protestations (also noted in Reply Memorandum, p. 20), the Complaint clearly attempts to attribute the entire financial crisis, and hence the entirety of Moody's stock price decline, to Moody's alleged misconduct. See, for example, "[t]he depth of the market collapse caused by Moody's ratings misconduct is hard to overstate" (¶ 383); and "[i]t may have been the crisis that actuated the re-ratings, but it was the over-ratings that created the crisis" (¶ 248). That being said, I agree with Mr. Coffman's general sentiment on this point: it seems absurd to suggest that Moody's "created the crisis."

<sup>90</sup> Coffman Report, ¶¶ 11, 83-84, 101.

<sup>91</sup> Coffman Report, ¶ 89.



## EXHIBIT 2

48. The credit rating agencies have been the object of regulatory and legislative scrutiny for a long time. This scrutiny generally increases when there is an outcry about some alleged important mistake by the agencies. For example, there was much debate about the fact that the rating agencies kept Enron at an investment-grade rating until days before its bankruptcy filing.<sup>92</sup> At that time, a major criticism was that the rating agencies “were dismally lax in their coverage of Enron,” as a bipartisan committee chaired by Senators Lieberman and Thompson put it.<sup>93</sup> The Lieberman/Thompson Committee’s investigation concluded that “the agencies did not perform a thorough analysis of Enron’s public filings; did not pay appropriate attention to allegations of financial fraud; and repeatedly took company officials at their word, without asking probing, specific questions – despite indications that the company had misled the rating agencies in the past.”<sup>94</sup>
49. There are a whole host of reasons why regulators would scrutinize an industry or company that have absolutely nothing to do with fraud and a host of reasons why a stock price would react to changing likelihood of regulatory actions.<sup>95</sup> The hearings on rating agencies’ performance that followed Enron’s bankruptcy were not motivated by allegations of fraud on the part of the agencies, but instead by concerns about the quality of their work. Mr. Coffman should be able to recognize the determinants and consequences of regulatory attention to the rating agencies, as his Exhibit 1 cites at least 15 news stories related to regulation and legislation throughout the putative Class Period. Some are clearly unrelated to Moody’s alleged succumbing to issuer-pay conflicts of interest.<sup>96</sup>
50. Further, if one concedes that legislative scrutiny itself can be completely unrelated to the alleged misstatements, it is unclear how the seemingly “new” element of bipartisan support on which Mr. Coffman hangs his hat (Coffman Report, ¶ 98) changes things. In any event, although the comments cited in paragraph 105 of my initial report were all

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<sup>92</sup> This was noted in footnote 4 of the Stulz Report.

<sup>93</sup> “Financial Oversight of Enron: The SEC and Private-Sector Watchdogs; Statement of Chairman Joe Lieberman,” October 7, 2002.

<sup>94</sup> “Financial Oversight of Enron: The SEC and Private-Sector Watchdogs; Report of the Staff to the Senate Committee on Governmental Affairs,” October 8, 2002, p.108.

<sup>95</sup> This fact and the market’s knowledge of the regulatory risks facing Moody’s were discussed extensively in ¶ 108 and footnote 162 of the Stulz Report.

<sup>96</sup> See, for example, “SEC Finalizes Rules to Regulate Credit Rating Firms,” *Dow Jones Newswires*, May 23, 2007, COFFMAN 03838, and “Moody’s Sees Short-Term Costs from New Bill, Competition,” *Dow Jones International News*, September 28, 2006, COFFMAN 03609.

from Democratic senators, Senator Shelby himself had in fact been critical of ratings agencies before, as was noted in paragraphs 40, 106, and footnote 159 of the Stulz Report.

51. Furthermore, Mr. Coffman's Exhibit 1 reports additional information on August 20, 2007 that could be "potentially material" and have a negative impact on Moody's stock price: JPMorgan's downgrade of McGraw-Hill (the parent of S&P, another rating agency). I point out in my first report that analyst recommendation changes can impact other firms in the same industry.<sup>97</sup> The JPMorgan report was pessimistic about the evolution of revenues at rating agencies because of the decrease in new issuances. Mr. Coffman has this information in his Exhibit 1 but completely ignores it in the main text of his report. This seemingly contemporaneous negative information makes it impossible to ascertain which piece of news released on that day was responsible for the price drop. In other words, the observed stock price drop could be entirely due to the JPMorgan analyst report, to Senator Shelby's speech, or to both.
52. The second statistically significant alleged disclosure day is May 21, 2008. This is the trading day on which the *Financial Times*' story that Moody's had covered-up errors in rating some constant proportion debt obligations ("CPDO") issued in Europe became public.<sup>98</sup> As I explained in the Stulz Report<sup>99</sup> and in my deposition ("Stulz Deposition"),<sup>100</sup> these CPDO securities are complex and exotic structured securities. They are a niche product and have nothing to do with subprime mortgages. Rather than being issued by U.S. banks active in structured finance involving subprime, they were issued by European banks and were taking positions in a bespoke portfolio of credit default swaps.<sup>101</sup> The best way to think about these securities is as a closed-end mutual fund that takes positions in derivatives on corporate bonds according to a pre-specified formula. Moody's computer programs for rating these securities had a flaw.<sup>102</sup> When Moody's employees in Europe were made aware of the problem, they supposedly took

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<sup>97</sup> See Stulz Report footnote 158. The article cited in that footnote is now forthcoming in the *Review of Financial Studies*.

<sup>98</sup> "CPDOs Expose Ratings Flaw at Moody's," *Financial Times*, May 20, 2008.

<sup>99</sup> Stulz Report, ¶ 113.

<sup>100</sup> Stulz Deposition, 97:2-98:13.

<sup>101</sup> Stulz Report, ¶¶ 113, 115, footnote 173.

<sup>102</sup> "CPDOs Expose Ratings Flaw at Moody's," *Financial Times*, May 20, 2008.

non-credit-related factors such as Moody's reputation and potential impact on existing CPDO investors into account, which led the ratings to be unchanged.<sup>103</sup>

53. Mr. Coffman uses the stock price drop on this day to argue that the alleged omissions are material,<sup>104</sup> but he ignores the fact that the external investigations failed to find evidence that Moody's personnel masked the model error or kept the ratings unchanged due to conflicts of interest.<sup>105</sup> Mr. Coffman also offers no evidence in his report linking the stock price drop on May 21, 2008 to Moody's alleged succumbing to conflicts of interest. Nor was he able to offer any during his deposition. Instead, he stated that analyzing whether the CPDO incident had anything to do with alleged misstatements or omissions related to conflicts of interest "was not part of what I was asked to do nor was it a part of -- I am not relying on that in any way for any of my opinions contained in this report."<sup>106</sup> This statement leaves him no reliable economic basis to assert the alleged misstatements or omissions were material.
54. In terms of what could have caused the stock price drop, Mr. Coffman *agrees* with my suggestion that the price decline could be due, at least in part, to concerns about model errors, but he makes a critical mistake attempting to link this point to Plaintiffs' allegations.<sup>107</sup> Errors or inaccurate models can occur in the absence of fraud, due to reasons such as simple human fallibility. As discussed above with regulatory risk, stock price drops associated with investors' concerns over rating errors cannot be logically linked to Moody's allegedly concealing that it had succumbed to conflicts of interest.
55. Finally, as I noted in the Stulz Report, securities analysts covering Moody's did not even discuss the August 20, 2007 "disclosure" or link the May 21, 2008 *Financial Times* article to alleged artificially inflated ratings due to conflicts of interest or compromised independence.<sup>108</sup> Mr. Coffman seems to put a great deal of stock in analyst commentary, noting (while criticizing the major downgrade day analysis in the Stulz Report) that "[o]n the dates Dr. Stulz cites, there is **no analyst coverage or commentary that accuses**

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<sup>103</sup> "Moody's Investors Service Announces Actions After Review of European CPDO Ratings Process," *Business Wire*, July 1, 2008; "Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: Moody's Investors Service, Inc.," SEC Release No. 62802, August 31, 2010.

<sup>104</sup> Coffman Report, ¶¶ 87–88.

<sup>105</sup> Stulz Report, ¶117, "Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: Moody's Investors Service, Inc.," SEC Release No. 62802, August 31, 2010.

<sup>106</sup> Coffman Deposition, 153:16-157:2.

<sup>107</sup> Coffman Report, ¶ 88 and Stulz Report, ¶¶ 112–118. .

<sup>108</sup> Stulz Report, ¶¶ 108, 115-117.

**Moody's of artificially inflating the initial ratings. Dr. Stulz has not provided a clear rationale why these particular downgrades would be revealing."**<sup>109</sup> The very same criticism could be leveled at Mr. Coffman with respect to the alleged disclosures on August 20, 2007, and May 21, 2008. Absent analyst commentary linking these news stories to Plaintiffs specifically-pleaded misstatements or omissions, he has not provided a rationale as to why these particular disclosures are "revealing."

## V. MARKET EFFICIENCY

56. This section is meant to briefly respond to Plaintiffs' and Mr. Coffman's assertions on market efficiency for Moody's stock.
57. Mr. Coffman states that the event study I presented in the Stulz Report "provides strong evidence of market efficiency."<sup>110</sup> He also says that I do "not seriously dispute the informational efficiency of the market for Moody's stock" and that I cannot evaluate Moody's stock price movements in testing for materiality and loss causation unless I "accept[] that Moody's-specific news was efficiently incorporated into Moody's stock price."<sup>111</sup> Mr. Coffman is mistaken. My event study does not provide *evidence of market efficiency*; my event study presumes market efficiency *for the sake of argument*. My evidence that alleged misstatements or corrective disclosures were not associated with significant stock-price reactions is consistent with either (1) the hypothesis that these alleged misstatements or corrective disclosures did not provide material new information to the market, *or* (2) the notion that the market for Moody's stock was not efficient.
58. Mr. Coffman blatantly ignores a large body of peer-reviewed academic research when suggesting that my "passing criticism of the [first four *Cammer*] factors themselves are not supported by any reliable theory or evidence."<sup>112</sup> The well-known evidence I cited in

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<sup>109</sup> Coffman Report, ¶ 90, emphasis added. In his deposition, Mr. Coffman also repeatedly raised the point that securities analyst reports help him determine whether news is potentially material or important (see, for example, Coffman Deposition, pp. 54, 64, 66, 193-194, 284).

<sup>110</sup> Coffman Report, ¶ 7.

<sup>111</sup> Coffman Report, ¶ 39.

<sup>112</sup> See Coffman Report, ¶¶28, 37. Contrary to Mr. Coffman's suggestion, behavioral finance literature is replete with evidence of stocks trading on "open and developed" major national exchanges that nonetheless display inefficient behavior. Mr. Coffman can find numerous such examples from the survey of behavioral finance literature by Nicholas Barberis and Richard Thaler cited in ¶ 55 of the Stulz Report (Nicholas Barberis and Richard Thaler, "A Survey of Behavioral Finance," Chapter 18 in *Handbook of the Economics of Finance*, George Constantinides, Milton Harris, and René Stulz, (eds.), *Elsevier Science B.V.*, 2003, pp. 1059 – 1063). In addition, some of Mr. Coffman's own reference materials provide examples of stocks trading on large, developed markets that nonetheless display inefficient behavior. *Investments* by Sharpe et al. (Coffman Report, footnote 39), discusses

the Stulz Report of departures from efficiency by highly-traded, well-covered stocks on major exchanges shows that these factors by themselves do not guarantee efficiency.<sup>113</sup>

Academic research also shows examples of NYSE-traded stocks that react strongly to news articles that offer no new information.<sup>114</sup>

59. When examining the first four *Cammer* Factors, Mr. Coffman largely cites Plaintiffs' Memorandum for Class Certification without performing his own independent analysis. Mr. Coffman's supposedly more formal test of efficiency (presented in Coffman Report, ¶ 48) is anything but formal or scientific. His selection of 45 days that potentially had material news is inherently subjective and arbitrary. For starters, he has not outlined a coherent or objective methodology for how he chose the 45 days, rendering the exercise non-replicable.<sup>115</sup> The fact that the Coffman Report did not articulate *any* methodology for choosing the 45 days raises questions about why certain days made it into his set of 45 while other days with similar news did not.<sup>116</sup>
60. For example, he identifies an article on May 8, 2006, entitled "Moody's Puts Focus on REIT CDOs," from *National Mortgage News* as potentially material. The news article talks about a Moody's report on REIT CDO rating methodology that was published on

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anomalies such as the "January Effect" (stock returns tend to be higher in January) or the "Day-of-the-week Effect" (daily returns may depend, to some extent, on the weekday). The Tabak et al. article (Coffman Report, footnote 49) discusses how speculative bubbles can affect individual stocks on well-developed markets. (William F. Sharpe, Gordon J. Alexander, and Jeffery V. Bailey, *Investments*, Sixth Edition, Prentice Hall, 1999; David I. Tabak and Frederick C. Dunbar, "Materiality and Magnitude: Event Studies in the Courtroom," Chapter 19 in "Litigation Services Handbook, The Role of the Financial Expert," Third Edition, John Wiley & Sons, Inc., 2001).

<sup>113</sup> It is useful to note that the unpublished version of the survey article cited in the previous footnote was downloaded 13,251 times on one widely-used repository for academic research papers (SSRN) as of October 18, 2010. This makes it the 44<sup>th</sup> highest downloaded paper on that repository (which has over 245,000 distinct papers).

<sup>114</sup> See discussion of Bristol-Myers Squibb, a large capitalization stock, in: Gur Huberman and Tomer Regev, "Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar," *The Journal of Finance*, v56(1), February 2001, pp. 387-396.

<sup>115</sup> It is generally accepted that the scientific method requires that an experiment can potentially be replicated. For example, a scientifically significant effect can be defined "as that which can be regularly reproduced by anyone who carries out the appropriate experiment in the way prescribed." See, Karl Popper, "The Logic of Scientific Discovery," *Routledge*, 2002 (First English Edition, *Hutchinson*, 1959), pp. 23-24.. Mr. Coffman himself cites an article that discusses the notion that scientific evidence should be replicable. See, David I. Tabak and Frederick C. Dunbar, "Materiality and Magnitude: Event Studies in the Courtroom," Chapter 19 in "Litigation Services Handbook, The Role of the Financial Expert," Third Edition, John Wiley & Sons, 2001, pp. 8-9; COFFMAN 00291.

<sup>116</sup> In his deposition, Mr. Coffman repeatedly notes that a level of personal "judgment" is inherent in his exercise (see, for example, Coffman Deposition, pp. 42, 45-51, 54). However, he says that the exercise is nonetheless "objective" because the factors he considered were "driven by theory and research ... and economic logic ... you know, objective factors" (Coffman Deposition, pp. 50-51). He continues: "[t]he objective criteria was based on my training knowledge and experience" (Coffman Deposition, p. 71). I suppose Mr. Coffman considered, at least in part, past financial research on the broad categories of news that are likely to influence stock prices. Even so, the fact remains that the exercise itself is inherently subjective, or as Mr. Coffman said, "it's not devoid of all judgment, that's for sure" (Coffman Deposition, p. 51). Mr. Coffman's personal, professional judgment is the lens through which any objective economic theory is filtered in this exercise, and other researchers would necessarily have different opinions about what constitutes potentially material news, making the exercise itself non-replicable, and hence unscientific.

April 4, 2006.<sup>117</sup> It is unclear why neither the original report nor Moody's press release regarding the same report is included in Mr. Coffman's Exhibit 1, but the May 8 article, which contains no new information, is included. Similarly, news about a JPMorgan analyst upgrading Moody's stock on July 26, 2006 is not included in the Coffman Report Exhibit 1,<sup>118</sup> yet the news concerning JPMorgan's downgrade of McGraw-Hill is included on August 20, 2007. In addition, Mr. Coffman includes the 2006 10-K released on March 1, 2007 and news related to Moody's bank rating methodology on March 13, 2007 and March 16, 2007 as potentially material news. However, he does not include any other SEC filing or other methodology changes released during the putative Class Period, including the methodology reports related to loan originator assessments that figure prominently in the Complaint.

61. What's more, even if one accepts the proposition (which I do not) that Mr. Coffman's construct of 45 potentially material days is scientifically sound, it is important to note that the test itself does not answer the question at hand: is the market efficient? As Mr. Coffman noted in another matter, in an efficient market "security prices adjust to new publicly available information rapidly and in an unbiased fashion so that it is impossible to earn excess returns by trading on that information."<sup>119</sup> Simply tabulating whether there are relatively more significant abnormal returns in a subset of days says nothing about whether the price response on those days to certain information was rapid, unbiased, or even in the correct direction given an *ex ante* view of the news. This is especially problematic given the fact that he includes multiple pieces of news with the same or opposite potential implications on the stock price on 13 of the 45 days without even attempting to disentangle their effects. Mr. Coffman even admitted in deposition that his test is not able to assess whether the price response was unbiased.<sup>120</sup>

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<sup>117</sup> "Moody's Puts Focus on REIT CDOs," *National Mortgage News*, May 8, 2006, COFFMAN 03395. "Moody's Approach to Rating U.S. REIT CDOs," *Moody's Investors Service*, April 4, 2006. Also see, "Moody's Studies Growing REIT CDO Sector," *Moody's Press Release*, April 24, 2006.

<sup>118</sup> "Moody's Upped At J.P. Morgan, Risk Of Earnings Miss Lower," *Dow Jones News Service*, July 26, 2006, COFFMAN 04148. This article revealed that JPMorgan upgraded Moody's to neutral from underweight, as JPMorgan was "more comfortable with the group's valuation after the recent decline in the share price [and believed that] the risk of an earnings miss in the second quarter ... look[ed] low."

<sup>119</sup> *In Re: Connetics Securities Litigation*, Declaration of Mr. Coffman. Note that Mr. Coffman attempts to modify his earlier definition by stating that "all public information" implies "widely available public information" (Coffman Deposition, pp. 97-98). However, he has not provided any authoritative source that defines semi-strong form market efficiency based on the market incorporating "widely available" public information.

<sup>120</sup> Coffman Deposition, pp. 129-130.

62. Remarking on market efficiency, Professor Fama, often considered one of the fathers of the efficient capital markets hypothesis, notes: “though transactions costs, information that is not freely available to all investors, and disagreement among investors about the implications of given information are not necessarily sources of market inefficiency, they are potential sources. And all three exist to some extent in real world markets. Measuring their effects on the process of price formation is, of course, the major goal of empirical work in this area.”<sup>121</sup> Mr. Coffman’s analysis does no empirical inquiry into how such real world factors influence price formation for Moody’s common stock. Critically, price formation is a dynamic process. Just because a market is efficient on one day does not necessarily imply the market is efficient on all other days, and Mr. Coffman has not even attempted to examine the informational efficiency of Moody’s stock after the putative Class Period, a critical timeframe which includes the alleged May 21, 2008 and October 22, 2008 disclosures.<sup>122</sup>
63. As opposed to being a test of efficiency and rapid, unbiased price response to news, Mr. Coffman’s exercise merely shows that relatively more of his (subjectively identified) potentially material news days were associated with statistically significant stock returns than the rest of the trading days. Specifically, Mr. Coffman finds ten out of the 45 days have a statistically significant price movement; since this ratio ( $10/45=22.2\%$ ) is “much higher” than 5%, he rejects the hypothesis that “there was no relationship between company-specific news and movements in the market price.” He then concludes that this finding is “scientific evidence of a cause and effect relationship between Moody’s-specific news and Moody’s stock price movements.”<sup>123</sup> Far from being scientific, these results are merely anecdotal; Mr. Coffman has not outlined the basic framework for his exercise, including a threshold to determine how “much higher” than 5% the results from

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<sup>121</sup> Eugene Fama, “Efficient Capital Markets: A Review of Theory and Empirical Work,” *Journal of Finance*, Vol 25, No. 2, 1970, p. 388. As Prof. Fama notes in this paper, efficiency is really about a transactions based process of price formation in response to new information. As stated in the Stulz Report (footnote 2), the first four *Cammer* factors -- high trading volume, analyst coverage, market maker presence, and S-3 eligibility -- are simply metrics that are generally satisfied by almost any security that trades on a major exchange; they are not tests of market efficiency. Simply documenting these factors says nothing conclusive about whether a stock responds efficiently to new information.

<sup>122</sup> To illustrate the point that efficiency is a dynamic question, note that Moody’s stock became subject to some serious potential impediments to efficiency -- and the proper functioning of the arbitrage mechanism necessary to enforce efficiency -- after the Class Period. For example, there was a temporary ban on naked short selling for financial stocks which began on July 21, 2008, and a ban on any short selling of Moody’s stock between September 22, 2008 and October 8, 2008. In these periods, note that the first four *Cammer* factors would suggest that the market for Moody’s stock was efficient despite the rather obvious impediments to efficient price discovery and arbitrage.

<sup>123</sup> Coffman Report, ¶ 48.

his subjective, unscientific test must be for one to conclude that there was a “cause and effect” relationship?<sup>124</sup>

64. In fact, the statistical test Mr. Coffman implements is nonsensical for the question at hand. Suppose, for argument’s sake, that Mr. Coffman has correctly identified days with material information and that a day with material information is defined as a day on which the abnormal return is significant. In this case, Mr. Coffman’s test is strong evidence against efficiency because each day should have a statistically significant abnormal return (assuming that the model used by Mr. Coffman to estimate the expected return of Moody’s stock is appropriately specified). The test Mr. Coffman implements shows one of the following: (1) the days with material news are imperfectly chosen, and he chose correctly 10 days on which Moody’s stock reacted significantly, as would be expected in an efficient market; (2) Mr. Coffman chose all the days correctly, but Moody’s stock did not trade in an efficient market, so most of the time it did not react to material news; and (3) the days chosen by Mr. Coffman are a mixture of days with material news and days without material news, and the market had significant abnormal returns on some days that may or may not have had material news.
65. Taken together, the criticisms in this section show that Mr. Coffman’s assessment of market efficiency is haphazard, unscientific, and hence unreliable.

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<sup>124</sup> Since the exercise itself is unscientific, I am not sure what a reasonable threshold ratio would be. As a matter of speculative logic, though, given that Mr. Coffman’s first step was to identify “potentially material news,” one may expect the stock price to move in a statistically significant manner on *all* of the 45 days (or, allowing for some degree of imperfection in assessing “potentially material news” *ex ante*, at least the vast majority of the 45 days). Mr. Coffman has not explained why 5% -- which one would expect if the stock price moves by “randomness alone” -- rather than 100% (or something close to 100%) should be the correct benchmark. Given that the first stage of his exercise was to identify “potentially material news,” it is interesting that Mr. Coffman has not explained why Moody’s stock price *did not* ultimately react in a statistically significant manner on the vast majority (35) of the days he picked. In an attempt to make his exercise seem more scientific, Mr. Coffman reports results of a Chi-square test in footnote 54. As he notes, this test merely shows a significant difference in relative frequencies. Just showing (based on a subjectively defined test) that the market does not move in a completely random fashion, though, is far from answering the question at hand: whether “prices reflect what is known about a company” (Coffman Report, ¶ 27). Mr. Coffman did not even discuss, for example, whether all of the stock price reactions to his identified “news” items were in the direction or of the magnitude that he expected. He could be reporting results that include statistically significant stock price declines on days where he believed, *ex ante*, that the news was positive.



René M. Stulz  
Professor René M. Stulz

Oct. 22, 2010  
Date

# S&P 500 Financials Index Membership Firms

## Reporting Decreases in Net Income and Revenue<sup>1</sup>

9/30/07 – 12/31/08

Source: *Bloomberg ; Capital IQ*

	<u>Number of Membership Firms</u>	<u>Percentage of Membership Firms</u>
<b>Total Constituents</b>	<b>91</b>	
<b>Q3 07</b>		
Net Income	52	57%
Revenue	33	36%
<b>Q4 07</b>		
Net Income	74	81%
Revenue	34	37%
<b>Q1 08</b>		
Net Income	67	74%
Revenue	47	52%
<b>Q2 08</b>		
Net Income	62	68%
Revenue	54	59%
<b>Q3 08</b>		
Net Income	75	82%
Revenue	65	71%
<b>Q4 08</b>		
Net Income	70	77%
Revenue	67	74%

Note:

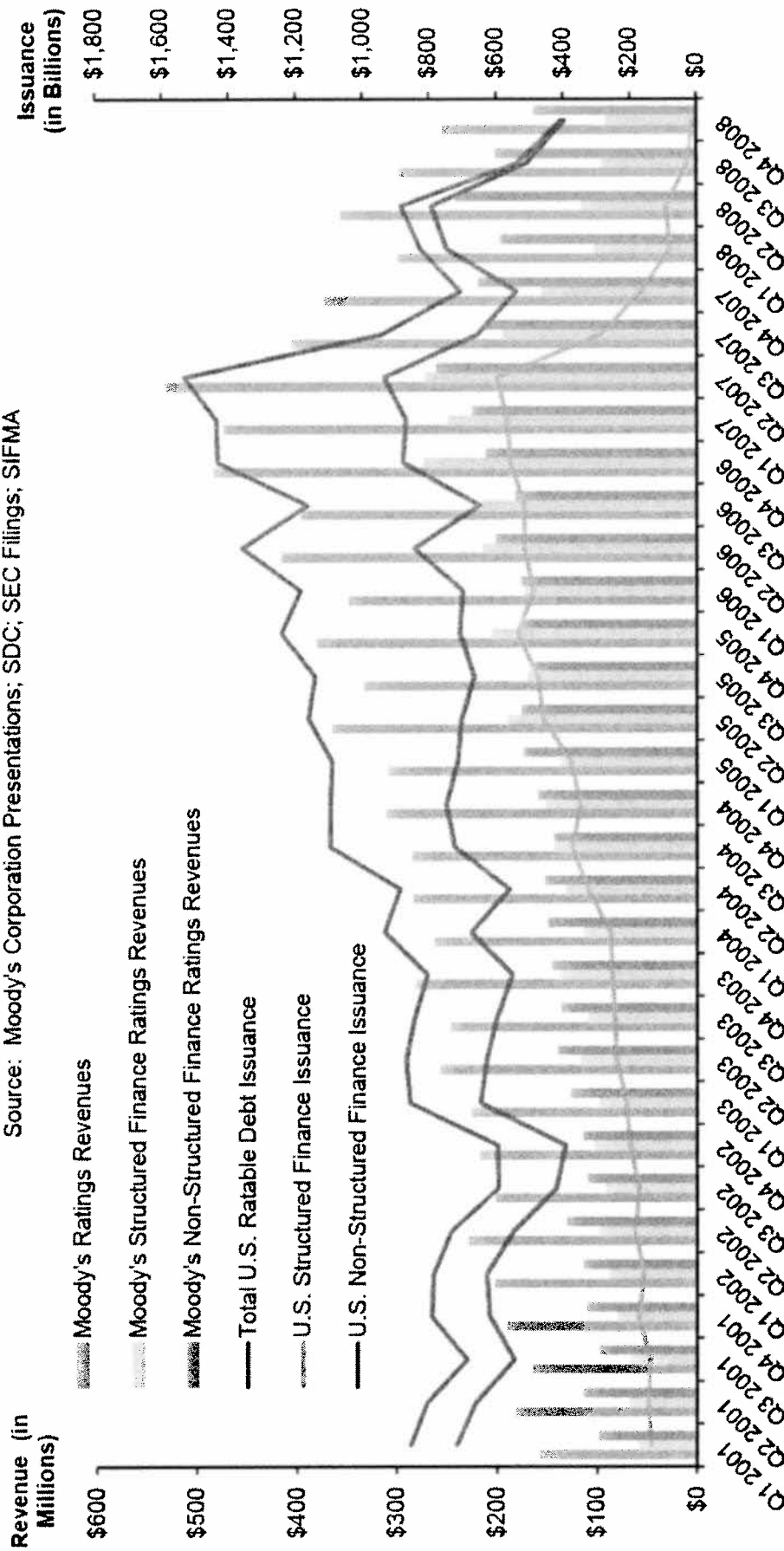
<sup>1</sup> Decreases are calculated by comparing a given quarter with the same period a year before. The S&P 500 Financials Index is a capitalization-weighted index of financial companies. The index is used to control for industry-wide factors in daily stock price movements in both the Coffman and the Stulz event study models. The constituent information is obtained as of October 24, 2007 from Bloomberg. Moody's Corp. has been excluded from the list.

# EXHIBIT 4

## Moody's Corporation Financial Performance and U.S. Debt Issuance

Q1 2001 – Q4 2008

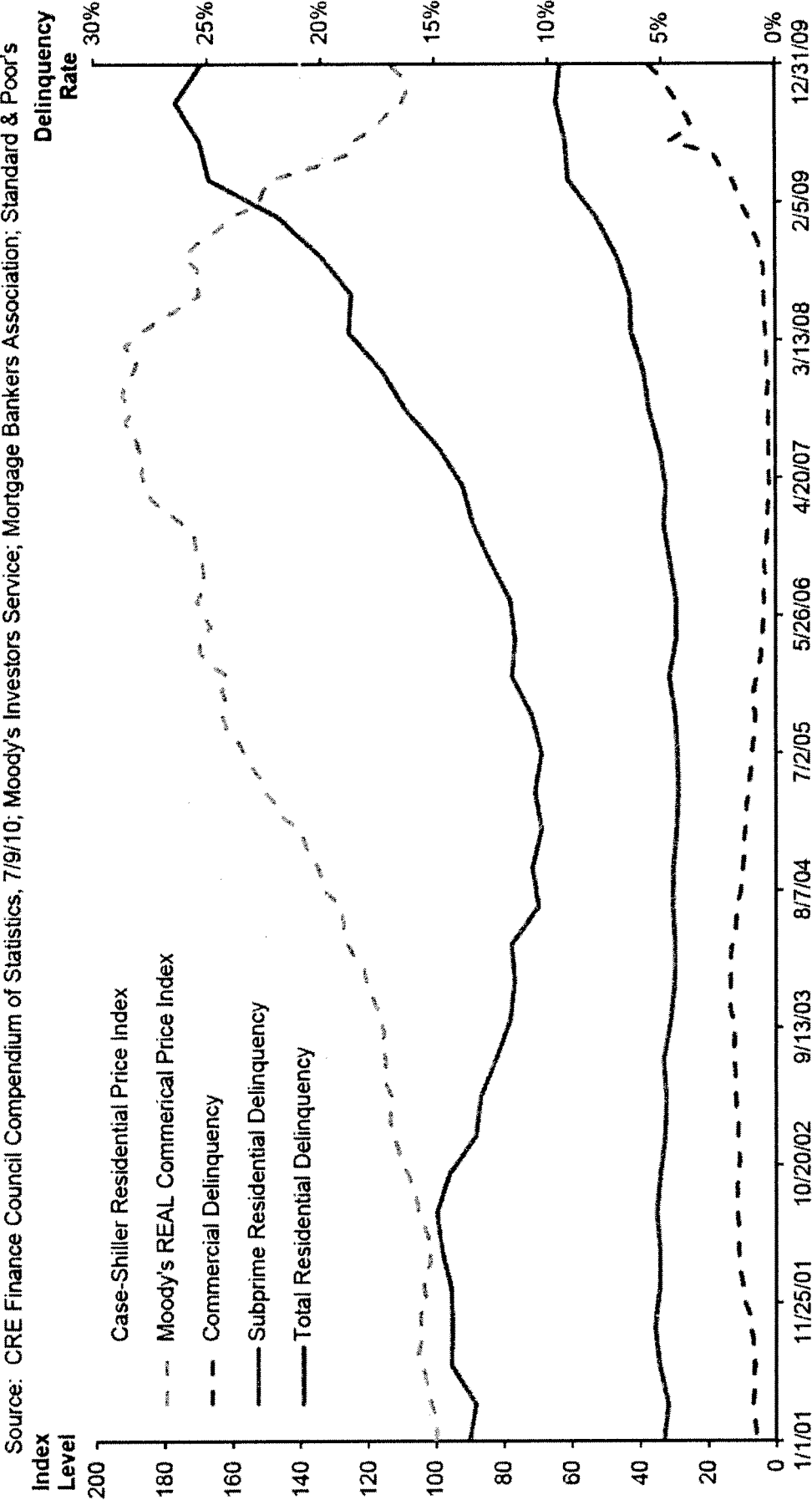
Source: Moody's Corporation Presentations; SDC; SEC Filings; SIFMA



Note: Quarterly data is used to track Moody's ratings revenues and structured finance ratings revenue from Q1 2001 to Q4 2008. Total U.S. ratable debt issuance data from SDC and SIFMA includes RMBS, CMBS, ABS, syndicated loans, high yield corporate debt, investment grade corporate debt, CDOs, and municipal debt. U.S. structured finance issuance includes RMBS, CMBS, ABS, and CDOs. Issuance totals do not include agency MBS. From Q1 2005 to Q4 2008, Moody's structured finance revenues are adjusted retroactively for the business reclassification that began in January 2008. Prior to Q1 2005, structured finance revenues are taken as of the filing date of the relevant SEC filings. This Exhibit is presented as Exhibit 14 of the May 2010 Stulz Report.

# Commercial vs. Residential Real Estate Price Indices and Delinquency Rates

1/1/01 – 12/31/09



Note: Case-Shiller residential price data is for the 10-City Metropolitan Area, which includes Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York, San Diego, San Francisco, and Washington D.C. Moody's REAL Commercial Property Index is a periodic same-property round-trip investment price change index of the U.S. commercial investment property market constructed using a repeat-sales regression. All price indices are pegged to 100 on December 31, 2000. Commercial delinquency represents monthly delinquency rates for fixed-rate, conduit CMBS transactions and includes all loans more than 30 days delinquent; performing and non-performing matured loans; and loans in foreclosure and real estate owned loans. Subprime and total residential delinquency series are percentages of all mortgages which are past due from Mortgage Bankers Association National Delinquency Survey dated December 31, 2009 and are seasonally adjusted quarterly data.

# Moody's Global Structured Finance Annual Downgrade Rates by Sector<sup>1</sup> 2002 – 2008

Source: Moody's Investors Service Reports on Structured Finance Rating Transitions 2003 – 2009

	Downgrade Rate						
	2002 <sup>2</sup>	2003 <sup>2</sup>	2004	2005	2006	2007	2008
<b>US ABS<sup>3</sup></b>	<b>7.1%</b>	<b>9.5%</b>	<b>8.6%</b>	<b>1.8%</b>	<b>1.3%</b>	<b>0.4%</b>	<b>16.1%</b>
US MH <sup>4</sup>	23.5%	39.7%	38.0%	0.7%			
US HEL <sup>5</sup>	0.7%	3.1%	2.0%	1.8%	1.7%	18.5%	54.3%
US Autos		1.9%	0.3%	0.0%	0.0%	0.0%	20.5%
US Credit Cards	3.5%	1.8%	0.0%	0.0%	0.1%	0.0%	4.5%
US Student Loans			0.0%	0.0%	0.0%	0.1%	23.9%
<b>US CDOs<sup>6</sup></b>	<b>25.1%</b>	<b>17.9%</b>	<b>5.6%</b>	<b>3.0%</b>	<b>2.6%</b>	<b>8.3%</b>	<b>48.3%</b>
US HY CBOs <sup>7</sup>	48.9%	33.5%	7.4%	1.2%	5.9%	2.8%	5.9%
US HY CLOs <sup>8</sup>	7.3%	5.5%	0.3%	0.2%	0.7%	0.2%	2.5%
US SF CDOs <sup>9</sup>	4.5%	8.9%	15.6%	9.6%	3.2%	20.0%	90.8%
US Synthetic Arbitrage CDOs	61.1%	33.7%	0.9%	1.6%	4.3%	0.9%	59.7%
<b>US CMBS<sup>10</sup></b>	<b>5.3%</b>	<b>4.3%</b>	<b>5.7%</b>	<b>3.4%</b>	<b>1.6%</b>	<b>0.8%</b>	<b>4.3%</b>
<b>US RMBS<sup>11</sup></b>	<b>0.1%</b>	<b>0.5%</b>	<b>0.1%</b>	<b>0.9%</b>	<b>0.2%</b>	<b>4.5%</b>	<b>37.3%</b>
excl '05 – '07 vintages						0.6%	6.6%
<b>US Structured Finance</b>	<b>7.0%</b>	<b>7.0%</b>	<b>5.5%</b>	<b>2.0%</b>	<b>1.2%</b>	<b>8.1%</b>	<b>38.0%</b>
<b>Global Structured Finance</b>	<b>7.2%</b>	<b>7.2%</b>	<b>5.0%</b>	<b>2.0%</b>	<b>1.2%</b>	<b>7.4%</b>	<b>35.5%</b>
excl SF CDOs, Other SF, and '05 – '07 vintage US HEL & RMBS						2.3%	12.1%
<b>Global Corporate<sup>12</sup></b>	<b>21.5%</b>	<b>15.3%</b>	<b>8.1%</b>	<b>8.3%</b>	<b>9.5%</b>	<b>8.8%</b>	<b>18.2%</b>

Note:

<sup>1</sup> If a downgrade rate appears in multiple reports, the number in the latest available report through March 2009 is recorded.

<sup>2</sup> In 2002 and 2003, the downgrade rates of Asset-Backed Securities, Collateralized Debt Obligations, Commercial Mortgage Backed Securities, Residential Mortgage-Backed Securities, and their respective subcategories are global.

<sup>3</sup> Asset-Backed Securities. Home Equity Loans excluded in 2006, 2007, and 2008.

<sup>4</sup> Securities backed by Manufactured Housing.

<sup>5</sup> Securities backed by Home Equity Loans, including subprime mortgages.

<sup>6</sup> Collateralized Debt Obligations.

<sup>7</sup> High-Yield Collateralized Bond Obligations. In 2002 and 2003, figures represent the downgrade rate of Arbitrage Cash Flow Collateralized Bond Obligations (ACF CBOs).

<sup>8</sup> High-Yield Collateralized Loan Obligations. In 2002 and 2003, figures represent the downgrade rate of Arbitrage Cash Flow Collateralized Loan Obligations (ACF CLOs).

<sup>9</sup> Structured Finance CDOs, or CDOs backed by structured finance securities such as ABS and RMBS. Also called Resecuritization CDOs in 2002 – 2005.

<sup>10</sup> Commercial Mortgage-Backed Securities.

<sup>11</sup> Residential Mortgage-Backed Securities.

<sup>12</sup> Includes international corporate and sovereign issuers, but excludes municipal ratings.

# Moody's Corporation Conference Call Comments on RMBS and CMBS Ratings Revenue

Q4 2005 – Q3 2007

Source: Moody's Earnings Conference Calls

Quarter	RMBS	CMBS
Q4 2005	<p>"U.S. Structured Finance benefited from strong growth in a number of ratings segments, including residential and commercial mortgage-backed securities...."</p> <p>"We are projecting a high teens percent decline from 2005 to 2006 in revenue from residential mortgage-backed securities, including home equity securitization...."</p>	<p>"U.S. Structured Finance benefited from strong growth in a number of ratings segments, including residential and commercial mortgage-backed securities...."</p> <p>"[W]e look for double-digit year-over-year growth in asset-backed securities, credit derivatives and commercial mortgage-backed securities."</p>
Q1 2006	<p>"The residential mortgage securities area, which also had good growth in the first quarter, continues to have a pretty good pipeline. It is not at the high watermark that we saw in the later stages of 2005, but it has not fallen off as dramatically as we might have feared at our earnings call at the beginning of the year."</p> <p>"[W]ith respect to the residential mortgage side of the business...[w]e are seeing some smaller transaction sizes, which may imply that the stock of assets available for securitization is being worked through. And we are also seeing some traditionally prime mortgage lenders securitizing more assets that are coming from the sub-prime sector. And at least by historical measures, the move down into more sub-prime activity would indicate that we are in the later stages of the most active part of the residential mortgage securitization market."</p>	<p>"U.S. structured finance benefited from broad-based growth, particularly from rating commercial mortgage-backed securities and credit derivatives, and the continuation of strong growth from residential mortgage-backed securities."</p> <p>"[W]e look for double-digit year-over-year revenue growth in most other asset classes, including modestly higher expectations than at the beginning of the year for revenue from credit derivatives and commercial mortgage-backed securities ratings."</p>
	<p>"We continue to project a high-teens year-over-year percent decline in revenue from residential mortgage-backed securities, including home equity securitization...."</p>	

# EXHIBIT 7

Quarter	RMBS	CMBS
Q2 2006	<p>There was a realized "year-over-year decline [in revenue] from residential mortgage-backed securities."</p> <p>"[W]e are seeing some weakening in parts of the residential mortgage market as as [sic] it relates to securitization volume."</p> <p>"We project a midteens percent decline in revenue from residential mortgage-backed securities ratings, including home equity securitization...."</p>	<p>"We also had <u>modest growth</u> in the commercial mortgage-backed security sector, but that was a growth off an extremely strong second quarter in 2005. So we actually count it as a good quarter even though the growth was modest."</p> <p>"We project...strong year-over-year revenue growth from rating credit derivatives and commercial mortgage backed securities."</p>
Q3 2006	<p>"We saw very strong growth in revenue from rating credit derivatives and a year-over-year increase from residential mortgage-backed securities, despite signs of weakness in the market."</p> <p>"[W]e continue to expect an absolute decline in RM[B]S revenue for the quarter. Now, as you know, we have been anticipating that for several quarters..."</p> <p>"We now expect revenue from rating residential mortgage backed securities including home equity securitizations [in 2006] to be essentially flat compared with 2005."</p>	<p>"[W]e are <u>expecting strong growth</u> from rating credit derivatives and commercial mortgage-backed securities."</p>
Q4 2006	<p>There was "a <u>decline</u> in revenue from residential mortgage-backed securities."</p> <p>"We have not seen a significant decline year on year in the RMBS pipeline, so that is approximately flat with the very early period of 2006."</p> <p>"[W]e are <u>projecting a decline from 2006 to 2007</u> in revenue from residential mortgage-backed securities including home equity securitization...."</p>	<p>"U.S. structured finance benefited from strong growth in a number of ratings segments including credit derivatives and commercial mortgage-backed securities."</p> <p>"In the U.S. structured finance business we expect revenue for the year to rise from the high single to double-digit percent range including <u>solid double digit percent growth</u> in revenue from credit derivatives and commercial mortgage backed securities ratings."</p> <p>"[W]e are continuing to <u>see good growth</u> in the CDOs of commercial real estate sector. And that is supporting a lot of the growth that is going into our commercial mortgage-backed securities outlook, and we expect that to continue both in the U.S. and in Europe."</p>

# EXHIBIT 7

Quarter	RMBS	CMBS
Q1 2007	<p>Moody's had "very strong growth in commercial mortgage-backed securities in the U.S. and Europe and residential mortgage-backed securities, particularly in Europe."</p> <p>For the full year 2007, Moody's expects "a decline in rating from residential mortgage back securities ratings, including home equity securitization, in the low-teens percent range, which is a greater decline than the mid-single digit percent decline originally forecast."</p>	<p>Moody's had <u>"very strong growth in commercial mortgage-backed securities in the U.S. and Europe...."</u></p> <p>"In the U.S. structured finance business, we now expect revenue for the [full 2007] year to rise in the high single-digit percent range, including solid double-digit year-over-year percent growth in revenue from credit derivatives and commercial mortgage-backed securities ratings...."</p>
Q2 2007	<p>There was a "10% decline [in revenue] from rating residential mortgage backed securities."</p> <p>"U.S. structured finance revenue for the second half of 2007 is projected to decline in the high teens percent range giving current market conditions a difficult comparisons versus the same period of 2006. This includes an expected year-over-year decline in second half revenue from rating residential mortgage-backed securities of <u>about 40%....</u>"</p>	<p>There were <u>"[v]ery strong results from rating commercial mortgage backed securities and credit derivatives."</u></p> <p>"[W]e do expect revenue growth [for the second half of 2007] in the mid single digit percent range from rating both asset backed securities and commercial mortgage-backed securities."</p>
Q3 2007	<p>There was "a 6% decline in global structured finance revenue versus the prior period reflecting a deterioration [in] issuance of U.S. residential and mortgage back[ed] securities including securitizations of home equity loans and relating derivative instruments."</p> <p>There was <u>"a 52% decrease[] in revenue from rating residential mortgage back[ed] securities."</u></p> <p>For the full year 2007, we expect <u>"a decline in revenue from the U.S. residential mortgage back securities ratings...."</u></p>	<p>"Within U.S. structured finance, [there was] <u>revenue growth of 29% from rating commercial mortgage back securities."</u></p> <p>For the full year 2007, Moody's expects <u>"low double digit percent growth in commercial mortgage back securities...."</u></p>

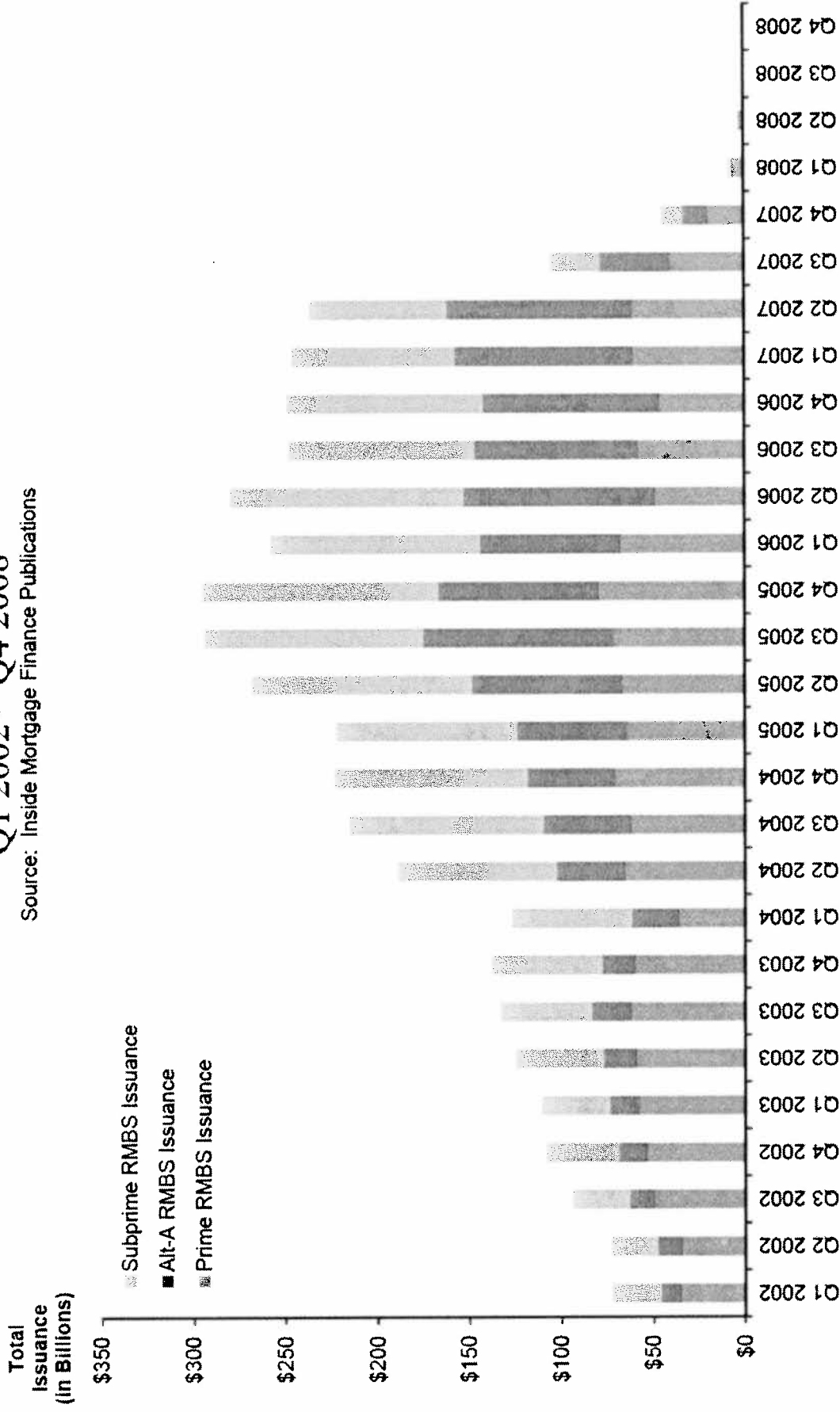


# EXHIBIT 8.A

## U.S. RMBS Issuance

Q1 2002 – Q4 2008

Source: Inside Mortgage Finance Publications

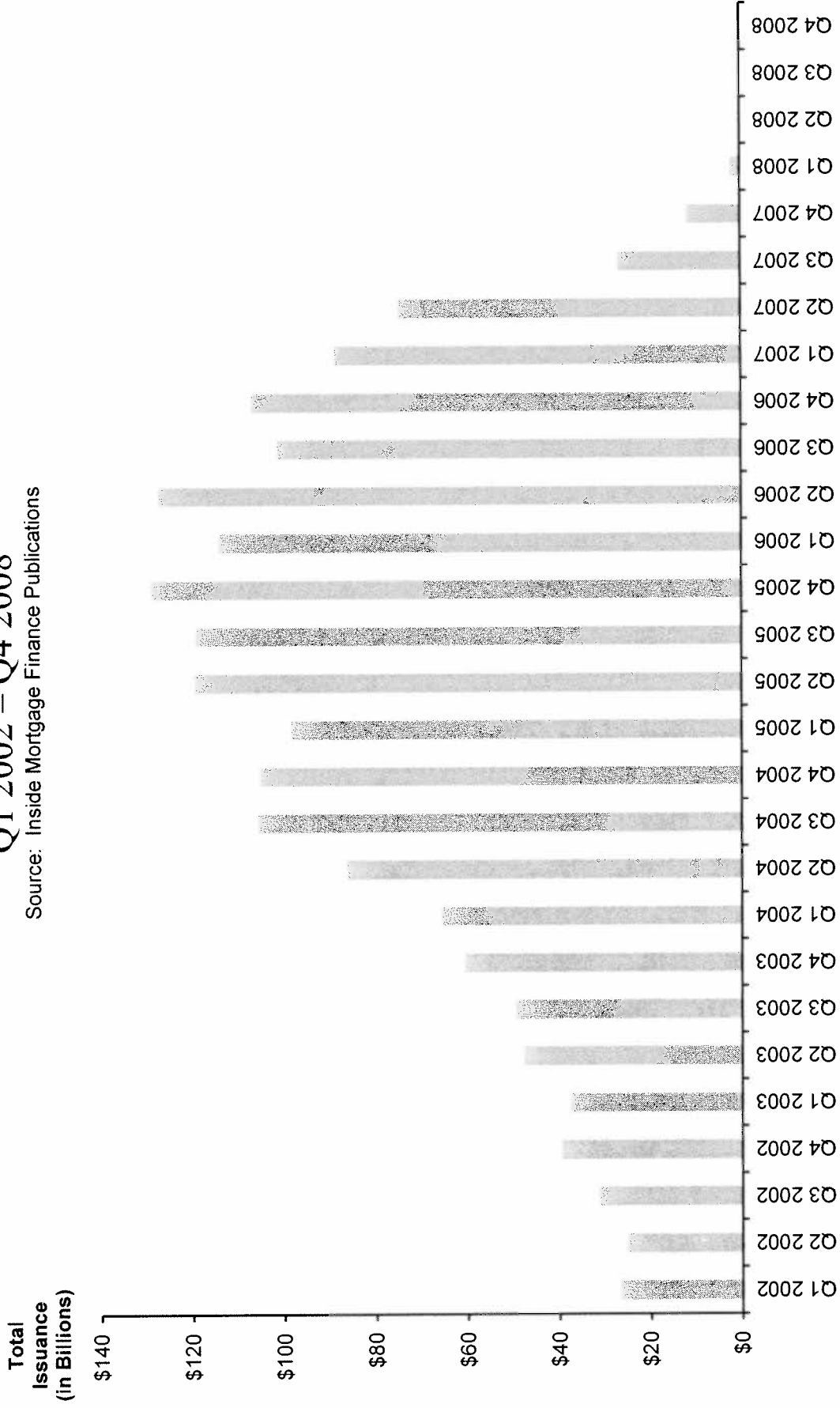


Note: Excludes Agency RMBS. This Exhibit is presented as Exhibit 2 of the May 2010 Stulz Report.

# U.S. Subprime RMBS Issuance

Q1 2002 – Q4 2008

Source: Inside Mortgage Finance Publications



# EXHIBIT 9

## Moody's Corporation Analyst Revenue Forecast Revisions by Segment<sup>1</sup>

Source: Select Analyst Reports  
(\$ in millions)

Goldman Sachs Forecasts <sup>2</sup>	2007E			2008E			2009E		
	9/14/07	10/24/07	Change	9/14/07	10/24/07	Change	9/14/07	10/24/07	Change
Ratings									
Corporate Finance	\$498.6	\$474.8	-\$23.8	\$548.4	\$512.8	-\$35.6	\$603.3	\$564.0	-\$39.3
Financial Institutions and Sovereign	312.6	303.4	-9.2	350.1	330.5	-19.6	392.1	363.6	-28.5
Structured Finance	961.7	898.0	-63.7	956.4	772.5	-183.9	1,090.3	849.8	-240.5
Public Finance	97.4	108.3	10.9	102.3	106.1	3.8	107.4	111.4	4.0
Total Ratings Revenue	1,870.3	1,784.5	-85.8	1,957.2	1,721.9	-235.3	2,193.1	1,888.8	-304.3
Research	315.0	319.5	4.5	367.0	372.2	5.2	422.0	428.0	6.0
Total Ratings and Research Revenue	2,185.3	2,104.0	-81.3	2,324.2	2,094.1	-230.1	2,615.1	2,316.9	-298.2
Moody's KMV	159.2	152.3	-6.9	174.4	162.9	-11.5	188.3	176.0	-12.3
<b>Total Revenues</b>	<b>\$2,344.5</b>	<b>\$2,256.3</b>	<b>-\$88.2</b>	<b>\$2,498.6</b>	<b>\$2,257.1</b>	<b>-\$241.5</b>	<b>\$2,803.4</b>	<b>\$2,492.8</b>	<b>-\$310.6</b>
<b>Y/Y Total Revenue Growth</b>	<b>15.1%</b>	<b>10.8%</b>	<b>-4.3%</b>	<b>6.6%</b>	<b>0.0%</b>	<b>-6.6%</b>	<b>12.2%</b>	<b>10.4%</b>	<b>-1.8%</b>

Merrill Lynch Forecasts <sup>4</sup>	2007E			2008E			2009E		
	10/16/07	10/25/07	Change	10/16/07	10/25/07	Change	10/16/07	10/25/07	Change
Ratings									
Corporate Finance	\$473.0	\$453.7	-\$19.3	\$475.4	\$428.0	-\$47.4	\$515.8	\$470.0	-\$45.8
Financial Institutions and Sovereign	314.5	302.4	-12.1	349.0	313.8	-35.2	380.4	345.2	-35.2
Structured Finance	876.1	898.6	22.5	877.0	673.9	-3.1	726.1	723.5	-2.6
Public Finance	116.0	124.4	8.4	121.5	131.8	10.3	130.0	141.0	11.0
Total Ratings Revenue	1,779.7	1,779.1	-0.6	1,622.9	1,547.6	-75.3	1,752.3	1,679.7	-72.6
Research <sup>5</sup>	312.2	319.8	7.6	360.0	368.8	8.8	399.6	409.3	9.7
Total Ratings and Research Revenue	2,091.9	2,098.9	7.0	1,982.9	1,916.4	-66.5	2,151.9	2,089.0	-62.9
Moody's KMV	158.0	152.3	-5.7	173.1	160.8	-12.3	186.9	172.0	-14.9
<b>Total Revenues</b>	<b>\$2,249.9</b>	<b>\$2,251.2</b>	<b>\$1.3</b>	<b>\$2,156.0</b>	<b>\$2,077.1</b>	<b>-\$78.9</b>	<b>\$2,338.8</b>	<b>\$2,261.0</b>	<b>-\$77.8</b>
<b>Y/Y Total Revenue Growth</b>	<b>10.5%</b>	<b>10.5%</b>	<b>0.1%</b>	<b>-4.2%</b>	<b>-7.7%</b>	<b>-3.6%</b>	<b>8.5%</b>	<b>8.9%</b>	<b>0.4%</b>

Note:

<sup>1</sup> Analyst revenue forecasts are obtained from the latest revenue forecasts by segments before the October 24, 2007 Q3 2007 earnings announcement and the forecasts immediately afterwards when updated information was provided by the analysts.

<sup>2</sup> Goldman Sachs revenue forecasts are taken from reports on Moody's dated September 14, 2007 and October 24, 2007.

<sup>3</sup> CAGR is the compound annual growth rate.

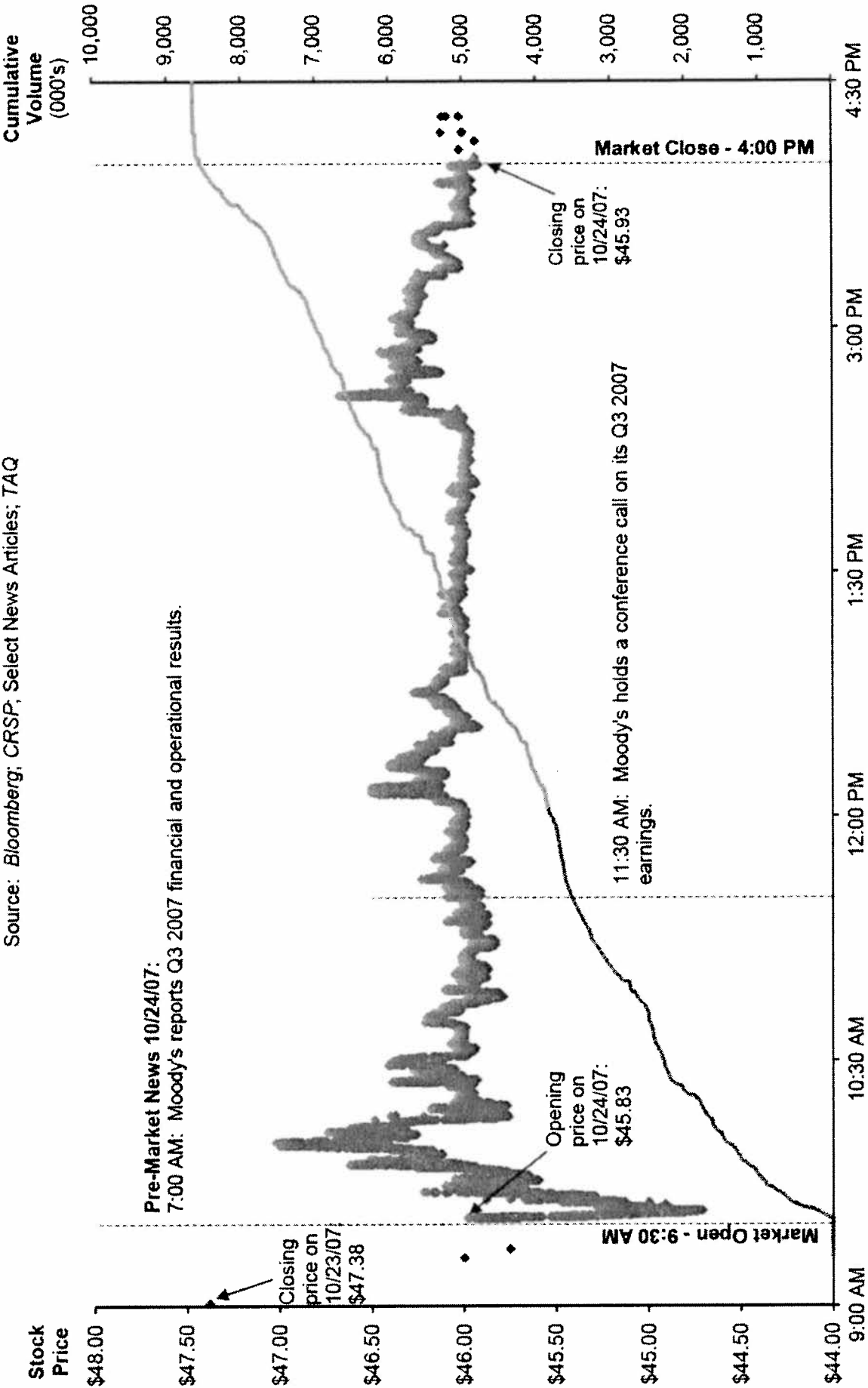
<sup>4</sup> Merrill Lynch revenue forecasts are taken from a report on rating agencies dated October 16, 2007 and a report on Moody's dated October 25, 2007.

<sup>5</sup> Merrill Lynch refers to this line item as "Other/Research Revenue."

# Moody's Corporation Intraday Stock Trades and Cumulative Volume

October 24, 2007

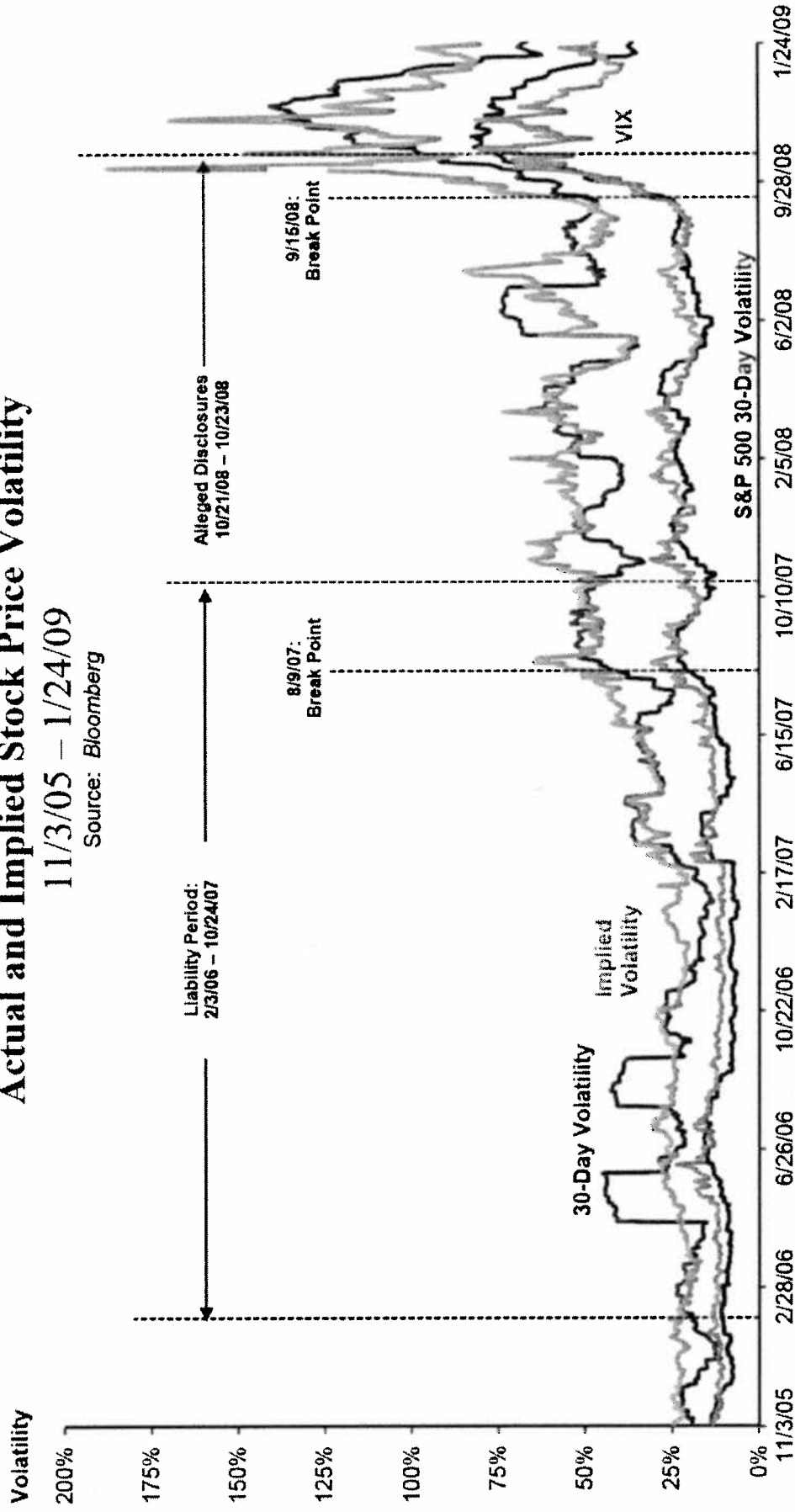
Source: Bloomberg; CRSP; Select News Articles; TAQ



# Moody's Corporation vs. S&P 500 Actual and Implied Stock Price Volatility

11/3/05 – 1/24/09

Source: Bloomberg

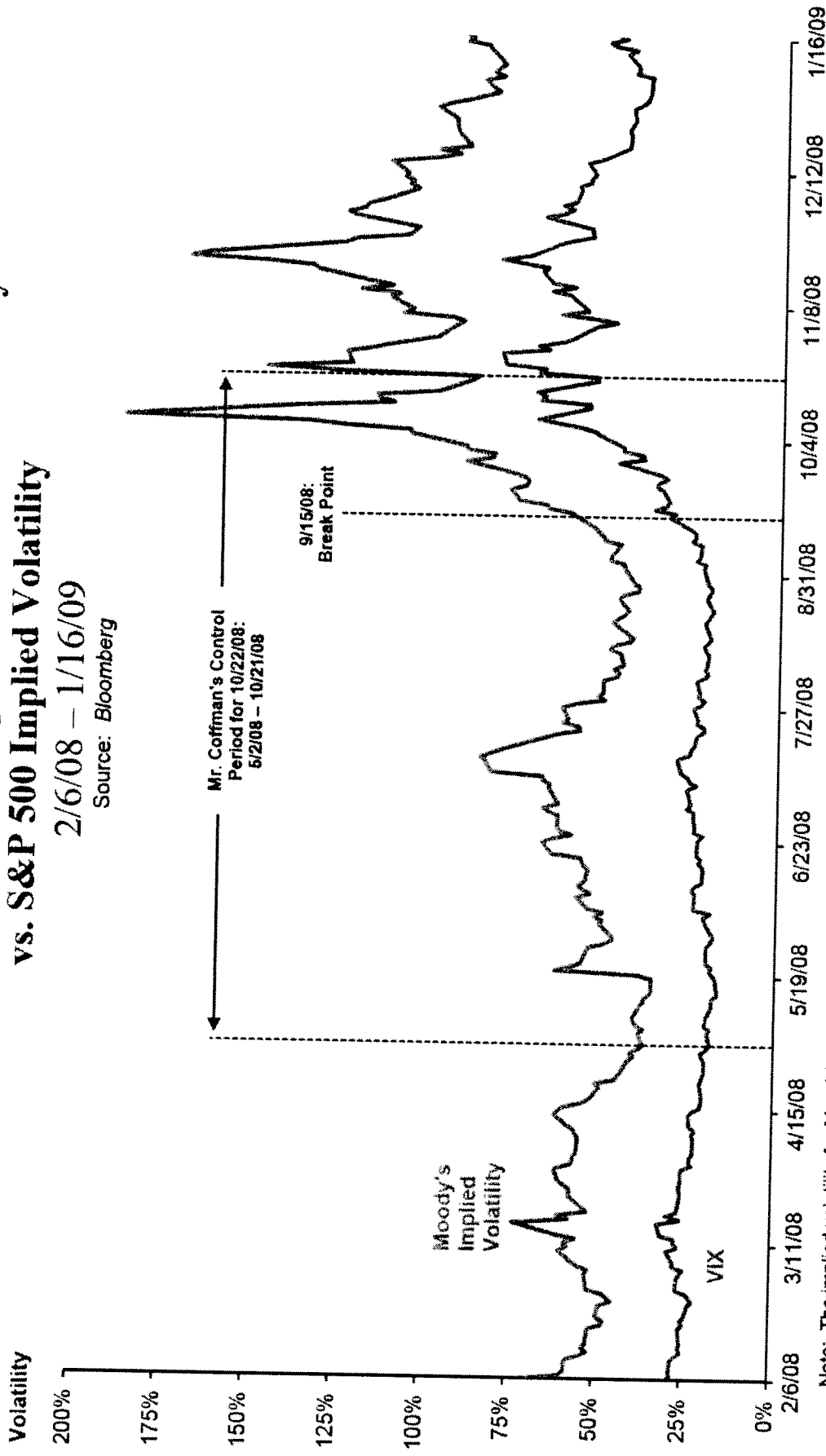


Note: 30-day volatilities are equal to the annualized standard deviation of the relative price change for the 30 most recent trading days' closing prices. The implied volatility is equal to the weighted average of the volatilities derived from the closest out-of-the-money call option and the closest out-of-the-money put option. VIX refers to the Chicago Board Options Exchange's Volatility Index, which is based on the S&P 500 Index and estimates expected volatility by averaging the weighted prices of S&P 500 Index puts and calls over a wide range of strike prices. All volatilities and VIX values are obtained directly from Bloomberg. The two break points correspond to BNP Paribas' suspension of redemptions from three of its funds on August 9, 2007 and Lehman Brothers' bankruptcy on September 15, 2008. This Exhibit is presented as Exhibit 5 of the May 2010 Stulz Report.

# Moody's Corporation Implied Stock Price Volatility vs. S&P 500 Implied Volatility

2/6/08 – 1/16/09

Source: Bloomberg



Note: The implied volatility for Moody's stock is equal to the weighted average of the volatilities derived from the closest out-of-the-money call option and the closest out-of-the-money put option. VIX refers to the Chicago Board Options Exchange's Volatility Index, which is based on the S&P 500 Index and estimates expected volatility by averaging the weighted prices of S&P 500 index puts and calls over a wide range of strike prices. The implied volatility for Moody's stock and VIX values are obtained directly from Bloomberg. The break point corresponds to an increase in volatility following Lehman Brothers' bankruptcy on September 15, 2008.